

1 CAUSE NO. 26294

2
3 SHANNA SHIPMAN A/N/F OF) IN THE DISTRICT COURT OF
SHANNON MOORE, A MINOR,)
Plaintiffs,)
4)
5 VS.) JOHNSON COUNTY, TEXAS
6)
7 PHILIP MORRIS COMPANIES,)
INC., PHILIP MORRIS)
INCORPORATED, PHILIP)
8 MORRIS U.S.A., AND)
SHELLY MOORE,)
Defendants) 18TH JUDICIAL DISTRICT

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13 ORAL DEPOSITION

14 OF

15 JERRY WHIDBY

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21 TAKEN AUGUST 28, 1996

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25 Steve Discher

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1 ANSWERS AND DEPOSITION OF DR. JERRY WHIDBY,
2 a witness called by the Plaintiffs, taken before
3 Tamara J. Braun, a Certified Shorthand Reporter in
4 the State of Texas, on the 28th day of August,
5 1996, between the hours of 9:30 a.m. and 4:30 p.m.;
6 in the offices of Hunton & Williams, East Tower,
7 951 East Byrd Street, Richmond, Virginia, pursuant
8 to the notice of counsel for the respective parties

9 as hereinafter set forth.

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1 CHANGES MADE TO DEPOSITION

2

3 Rule 205, "No erasures or obliterations of
4 any kind are to be made to the original testimony
5 as transcribed by the deposition officer. Any
6 changes in form or substance which the witness
desires to make shall be furnished to the
deposition officer by the witness, together with a
statement of the reasons given by the witness for
making such changes."

7 Please enter the page number, line number,
and the reason for such change or correction.

8 Page/Line Correction Reason for Correction

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JERRY WHIDBY

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1 (Whidby Exhibit No. 1 was
2 marked for identification.)

3 EXAMINATION

4 BY MR. GRISHAM:

5 Q. Dr. Whidby, would you state your name for the
6 record?

7 A. Jerry Frank Whidby.

8 MR. CRAMPTON: I just wanted to state
9 for the record that this deposition is confidential
10 in accordance with the protective order that's been
11 entered in this court and is to be maintained in
12 confidence according to that order.

13 The entire deposition should be maintained

14 in confidence according to the order for 30 days
15 after the transcript is received, after which time,
16 Philip Morris will designate which portions are and
17 which portions aren't confidential. I just wanted
18 to state it for the record.

19 MR. GRISHAM: Correct.

20 Q. (By Mr. Grisham) Dr. Whidby, where do you
21 reside?

22 A. [DELETED].

23 Q. How long have you lived at that address?

24 A. About four years.

25 Q. Four?

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1 A. Yes, sir, about four years.

2 Q. How are you employed?

3 A. I'm employed by Philip Morris.

4 Q. What specific Philip Morris entity are you
5 employed by?

6 A. Philip Morris U.S.A.

7 Q. How long have you been employed by Philip
8 Morris U.S.A.?

9 A. I'm into my 25th year. A little over 24
10 years.

11 Q. Have you at any time in the past worked for
12 any Philip Morris entity other than U.S.A.?

13 A. No, sir, I don't think so.

14 Q. What is your age?

15 A. I'm 52 right now. I was born in 1943.

16 Q. Do you recall the -- your date of hire with

17 Philip Morris U.S.A.?

18 A. No, sir, I don't.

19 Q. It was around 1971, though, correct?

20 A. No, sir. It was 1972.

21 Q. '72. Prior to becoming employed with Philip

22 Morris U.S.A., what sort of endeavors were you

23 involved in professionally or occupationally?

24 A. Prior to coming to Philip Morris, I was a

25 chemist.

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1 Q. Where did you work as a chemist, prior to

2 going to work for Philip Morris?

3 A. I worked with General Electric.

4 Q. How long were you with G.E.?

5 A. Approximately a year.

6 Q. And you worked for G.E. as a chemist?

7 A. Yes, sir.

8 Q. Prior to going to work for G.E., where were

9 you employed?

10 A. With the U.S. Army.

11 Q. What did you do for the Army?

12 A. I was a chemist.

13 Q. How long were you with the Army?

14 A. Not quite two years.

15 Q. What did -- what sort of projects did you work

16 on in the Army?

17 A. We evaluated chemical agents.

18 Q. What sort of chemical agents did you evaluate?

19 A. We evaluated chemical agents that were used in
20 various battlefield situations.

21 Q. Prior to going into the Army, were you in
22 school?

23 A. Yes, sir.

24 Q. If you can, would you outline for me briefly
25 your educational background including degrees that

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1 you received and where you received them?

2 A. I received a Ph.D. in chemistry from the
3 University of Georgia in 1970. In 1965 I received
4 a B.S. degree in chemistry from North Georgia
5 College.

6 Q. Where is that located?

7 A. Dahlonega, Georgia.

8 Q. Prior to entering into the Army, were you
9 employed in any capacity, other than summer jobs,
10 as a student?

11 A. While I was in graduate school, I was -- had
12 an assistantship, and I received some funds from
13 that.

14 Q. So you worked there at the university?

15 A. Yes, sir.

16 Q. I'm not really familiar with the chemistry
17 discipline. But while you were you in school, did
18 you focus your studies in any one particular area
19 within chemistry?

20 A. Yes, sir.

21 Q. What area was that?

22 A. Analytical physical chemistry.
23 Q. Did you prepare a thesis?
24 A. Yes, sir.
25 Q. What was the topic of that thesis?

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1 A. Nuclear Magnetic Resonance Studies of Various
2 Compounds.

3 MR. MARKEY: I'm sorry, various what,
4 sir?

5 THE WITNESS: Compounds.

6 Q. (By Mr. Grisham) And that was published?

7 A. Yes, sir.

8 Q. Where would one be able to get a copy of
9 that? Is there a cite for it?

10 A. I don't know exactly.

11 Q. You don't remember what publication it was
12 published in?

13 A. I don't know. I assume the University of
14 Georgia has a copy of it in their library. It's an
15 assumption on my part.

16 Q. Have you ever published any other treatises,
17 papers, research projects or anything of that
18 nature in the public realm?

19 A. Yes, sir.

20 Q. Starting with the earliest of those, could you
21 tell me the titles -- or if you can't recall the
22 exact titles, perhaps the subjects leading up to
23 today?

24 A. I can't recall the titles of any of them.

25 Most of them dealt with nuclear magnetic resonance

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1 studies of various chemical compounds.

2 Q. Just so that I'll understand what we're
3 talking about, could you give me, to the best of
4 your ability, a layman's account of what nuclear
5 magnetic resonance studies are?

6 A. Nuclear magnetic resonance studies are the
7 evaluation or determination of the structure of
8 chemical compounds in solution, generally.

9 Sometimes you can do it with solid materials, but
10 you look at the chemical specie, what it is.

11 Q. Does it allow you, through that study, to
12 speciate various chemicals in a very minute form?

13 A. No, it does not, not in general.

14 Q. What is the practical function or utility of
15 nuclear magnetic resonance studies in the field of
16 chemistry?

17 A. It's very varied.

18 Q. It's very --

19 A. It's a wide array of applications.

20 Q. Can you give me some examples of some of the
21 utilitarian functions of those studies today?

22 A. Today, perhaps the most utilitarian is the
23 magnetic imaging of human bodies for medical
24 purposes.

25 Q. You mentioned that most of the articles that

1 you had published dealt with that particular --
2 that particular sort of study. How many did you --
3 did you publish in that area?

4 A. I don't recall.

5 Q. Would it be 20 or more?

6 A. Probably.

7 Q. Less than 50?

8 A. Probably.

9 Q. I'm just trying to get a handle on the
10 volume.

11 A. Yes, sir. I really don't recall.

12 Q. Can you tell me where these publications might
13 be found?

14 A. Various Peer Review journals.

15 Q. To the best of your ability name off what
16 those journals are.

17 A. I believe one of them was Journal of American
18 Chemical Society. I believe another one was
19 Journal of Organic Chemistry. I believe another
20 one was Analytical Chemistry. I believe another
21 one might be Analytical Letters. Another one might
22 be Bytraga. I don't recall any additional ones.

23 Q. Do you recall any papers or treatises or
24 studies that you've published outside the area of
25 magnetic resonance studies?

1 A. I believe I have, but I can't recall.

2 Q. In the course of your employment with Philip
3 Morris U.S.A. or any of its related entities, have
4 you conducted any research outside the United
5 States?

6 A. No, sir, not that I recall.

7 Q. Have you overseen or directed or received
8 results from research conducted by Philip Morris or
9 related entities that was conducted outside the
10 United States?

11 MR. CRAMPTON: Are you talking about

12 ignition propensity research?

13 MR. GRISHAM: Yes.

14 MR. CRAMPTON: Limit it to cigarette
15 ignition propensity, generally.

16 MR. GRISHAM: Yes.

17 Q. (By Mr. Grisham) Or designs related to
18 ignition propensity projects?

19 A. I'm sorry, would you repeat the question?

20 Q. I was afraid you were going to ask that,
21 Dr. Whidby.

22 MR. GRISHAM: Could you read that back,
23 because it was a pretty long question.

24

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1 (Whereupon the previous question was read
2 back as follows: "Have you overseen or

3 directed or received results from research
4 conducted by Philip Morris or related
5 entities that was conducted outside
6 the United States?")

7 A. I don't know.

8 Q. (By Mr. Grisham) Why do you not know?

9 A. I don't know that all the data that I've
10 received was from the U.S. I don't -- I just don't
11 know.

12 Q. You don't know one way or the other?

13 A. No, sir, not that I -- I can't say.

14 Q. Do you know whether or not Philip Morris or
15 any related entities conducted or have conducted
16 ignition propensity studies outside the United
17 States?

18 MR. CRAMPTON: I'm sorry to interrupt.

19 But by "related entities," do you mean Philip
20 Morris incorporate entities? Or by "related
21 entities." do you mean something beyond that?

22 MR. GRISHAM: I do. And particularly
23 what I'm thinking about is maybe subcontractors,
24 companies that he may contract with to do work for
25 him.

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1 MR. CRAMPTON: If I could just try to
2 clear up just one thing. There has been some
3 research that's been done by this group called
4 CORESTA that you talked about yesterday. Some

5 members of CORESTA are not within the United
6 States. So if you could sort of exclude that, it
7 would make the question easier for the witness, I
8 think.

9 THE WITNESS: I need to ask a question
10 of you, too, about --

11 MR. CRAMPTON: Can we go off the record
12 for a minute?

13 MR. GRISHAM: Sure.

14 (Brief recess.)

15 MR. CRAMPTON: Lynn, in addition to the
16 CORESTA work that some of the members of which are
17 outside of the United States, one of the members of
18 a thing called the Joint Venture is Brown &
19 Williamson. And in connection with that, B.A.T.,
20 which is in London, may have done some research. I
21 assume you're excluding that?

22 MR. GRISHAM: Those are all things I
23 was going to ask about today.

24 MR. CRAMPTON: Okay. If you could --
25 in the course of the questioning -- the way you've

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1 worded the question makes it hard for the witness
2 to answer it, because he's thinking about B.A.T.
3 research that may have been done for CORESTA or for
4 the Joint Venture.

5 If you're asking about is Philip Morris
6 doing ignition propensity research outside of the
7 United States, you know, if you could limit it to

8 that, it would be easier for the witness to answer
9 the question.

10 MR. GRISHAM: Yeah. I'll try to do --
11 I'll try to do a good job of asking the questions
12 so we can answer it.

13 Q. (By Mr. Grisham) Obviously what I'm aiming at
14 in the course of these questions are to try to
15 determine the location of any research that's been
16 undertaken on any ignition propensity project. And
17 I understand from talking to counsel that some
18 members of CORESTA live outside the United States,
19 and that created some difficulty for you. Perhaps
20 B.A.T. had conducted a research, and that's not a
21 Philip Morris entity.

22 So I'm going to exclude in my question the
23 CORESTA project for now and any of the B.A.T.
24 research for now, and ask if other than those
25 circumstances, Philip Morris or any related entity

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1 has conducted, overseen or asked for research to be
2 conducted outside the United States on any ignition
3 propensity cigarette up until today?

4 A. Not to the best of my knowledge.

5 Q. While we're on the topic, we might as well go
6 ahead and talk about CORESTA and the Joint Venture
7 project.

8 First of all, give me a rough idea of what
9 the CORESTA group is or was.

10 A. Which CORESTA group?

11 Q. I take it by your answer there have been more
12 than one?

13 MR. CRAMPTON: There's a CORESTA task
14 force on ignition propensity. There are also
15 CORESTA task forces on many other subjects.

16 MR. GRISHAM: Fair enough.

17 Q. (By Mr. Grisham) What is CORESTA as a general
18 global entity?

19 A. CORESTA is a scientific body that's
20 constituted, as I understand, out of France. It
21 involves, both, members of the tobacco industry as
22 well as suppliers of the tobacco industry--flavor
23 houses, filter suppliers, you name it. It's a wide
24 array of different people. It's an international
25 organization all over the world. And they direct

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1 their research efforts at tobacco-type research.

2 Q. One facet of that being a task force on
3 ignition propensity?

4 A. Yes, there is a task force on ignition
5 propensity.

6 Q. Is CORESTA an acronym for some name?

7 A. Yes, sir, it is.

8 Q. Can you tell me what it is?

9 A. No, sir, I can't.

10 Q. Is it some -- is it a French name?

11 A. Yes, sir, it is.

12 Q. How did CORESTA come into existence, if you

13 know?

14 A. I don't know.

15 Q. Do you know about when CORESTA came to be?

16 A. No, sir, I don't.

17 Q. Do you know how CORESTA is funded?

18 A. No, sir, I don't.

19 Q. Is Philip Morris U.S.A. a member of CORESTA?

20 A. Yes, sir, it is. To the best of my knowledge,
21 it is a member.

22 Q. Does CORESTA, as a project, have an office, if
23 you will; in other words, a complex that is
24 dedicated to it and the research it undertakes?

25 A. I think it does. I'm not -- I think it does.

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1 Q. Is that in France?

2 A. Yes, sir, I believe so. This is to the best
3 of my knowledge. I'm not positive about that
4 either.

5 Q. I understand. I'm just asking for your best
6 information.

7 A. Right.

8 Q. Do you know whether or not CORESTA has any
9 research facilities dealing with ignition
10 propensity in any other European countries?

11 MR. CRAMPTON: Objection; it sounds as
12 though implied in that is there is a research
13 facility on ignition propensity in France --

14 MR. GRISHAM: Yeah, it was. It was --

17 MR. GRISHAM: Okay. Thank you.

18 Q. (By Mr. Grisham) Does CORESTA have any
19 facilities it dedicates to ignition propensity
20 research anywhere?

21 A. Not to my knowledge.

22 Q. Does it draw upon the research of its various
23 members in that area?

24 A. What do you mean by "that area"?

25 Q. Ignition propensity.

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1 A. To the best of my knowledge it does, yes.

2 Q. Is the ignition propensity task force, as a
3 part of CORESTA, a task force that included members
4 employed by Philip Morris U.S.A.?

5 A. Yes. To the best of my knowledge it does.

6 Q. Do you recall who those persons are or have
7 been in the past?

8 A. I've been the primary member of the CORESTA
9 task force.

10 Q. For how long?

11 A. I don't recall exactly.

12 Q. Can you give me your estimate within -- it may
13 be, you know, greater than five years, less than a
14 year? Just any broad estimate?

15 A. Excluding the first meeting that occurred, I
16 think I've -- I think I've been present at all the
17 meetings.

18 Q. For a span of about how many years or months

19 or?

20 A. Without being precise about it, it's got to be
21 something in the order of five or six more years.

22 I don't know.

23 Q. We're not talking about a year or two?

24 A. No, sir.

25 Q. It's longer than that?

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1 A. Yes.

2 Q. Was your involvement with CORESTA something
3 that you began after Project Hamlet had wound down
4 at Philip Morris?

5 A. Please repeat, I'm sorry.

6 Q. Sure. Did your beginning to work with the
7 ignition propensity task force at CORESTA come
8 about at or near the time the Hamlet project was
9 ending or winding down?

10 A. I don't recall.

11 Q. Does the Tobacco Institute have any membership
12 on the CORESTA -- any of the CORESTA teams?

13 A. Not that I'm aware of, but I don't know.

14 Q. Is there any membership of academic folks from
15 the universities on any of the CORESTA projects?

16 A. Yes, sir.

17 Q. And particularly the ignition propensity
18 project?

19 A. I'm not aware of anybody.

20 Q. Okay. Does CORESTA have any membership --
21 A. Not that I can recall. That I can recall --
22 I'm not aware of anybody that I can recall.
23 Q. Fair enough. Does CORESTA have any membership
24 that you're aware of from any governmental entities
25 or bodies?

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1 A. I don't know.
2 Q. How did CORESTA come to be formed?
3 MR. CRAMPTON: You mean the task force
4 on ignition propensity or the overall
5 organization?
6 MR. GRISHAM: I was talking --
7 MR. CRAMPTON: Because you've already
8 asked about the overall organization, but I don't
9 care if you reask it.
10 MR. GRISHAM: I don't want to repeat.
11 I just...
12 Q. (By Mr. Grisham) Do you have any knowledge of
13 how the overall concept of CORESTA came about, if
14 it was the branch out of one person?
15 A. No, sir, I don't. I'm sorry.
16 Q. Now, with respect to the task force on
17 ignition propensity, do you know how it came into
18 existence?
19 A. No, sir, not exactly.
20 Q. I may have to ask you to give me as much
21 information as you have. I know you don't know
22 exactly, but if you have some intuitive idea of how

23 it came about, I'd like to know your best thoughts
24 on that.

25 A. CORESTA task forces are generally formed at

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1 the general meeting of the CORESTA group. Somebody
2 recommends that it's -- that some work be done in a
3 particular area and it's taken under advisement, as
4 I understand, by the scientific commission and the
5 task force set in place.

6 To the best of my knowledge, that's how this
7 occurred, but I really don't know.

8 Q. Are any of the membership companies allowed
9 access to the fruits of the research of CORESTA and
10 particularly the ignition propensity project?

11 MR. CRAMPTON: By "fruits" you mean
12 results of the research?

13 MR. GRISHAM: Yeah.

14 A. What was the first part of your -- what was
15 the question?

16 Q. (By Mr. Grisham) Are the members -- the
17 entity members of the CORESTA organization or
18 project, as you might call it, given the
19 opportunity to access the results of research on
20 ignition propensity and the results of the
21 research?

22 A. Yes, sir, to the best of my knowledge they
23 are.

24 Q. Is the ignition propensity task force a

25 vehicle by which different companies can share

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1 information on ignition propensity studies?

2 A. What we do is limit it primarily to -- well,
3 it's limited to what we do in the CORESTA group.

4 Q. So the members of the group have access to the
5 research, but otherwise it's not available to the
6 companies that are members of the group?

7 A. No, sir. I don't think that's what I said or
8 implied.

9 Q. Okay. I misunderstood, I'm sorry. What I'm
10 trying to understand is you, on behalf of Philip
11 Morris, and, I assume, Brown & Williamson probably
12 has a representative; Leggett probably has a
13 representative, correct?

14 A. I don't know whether Leggett has a
15 representative or not.

16 MR. CRAMPTON: That's a multiple
17 question. It's actually three different questions.
18 And if you broke it down, you'd probably get two
19 yeses and a no.

20 Q. (By Mr. Grisham) Okay. Well, what I'm trying
21 to understand is there are various companies that
22 are members of the task force, correct?

23 A. Yes, sir, there are various companies that are
24 members of the task group.

25 Q. And the information they're hoping to achieve

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1 -- that you're hoping to achieve will be of
2 benefit to your employer, correct?

3 A. Information, yes. To the best of my
4 knowledge, that's the reason I'm on the task force.

5 Q. Correct. And what I assumed--and perhaps I
6 shouldn't have jumped to this conclusion--but I
7 assume the information that becomes available to
8 you as a member of the task force is something that
9 is available to Philip Morris U.S.A. to use,
10 evaluate, discount, if they want to, in terms of
11 designing cigarettes?

12 MR. CRAMPTON: Do you understand the
13 question, Jerry?

14 THE WITNESS: No, not really.

15 MR. CRAMPTON: It's a little bit
16 complicated and --

17 MR. GRISHAM: Let me try again.

18 MR. CRAMPTON: -- I can try to
19 reformulate it for you.

20 MR. GRISHAM: I will. I'll try again.

21 Q. (By Mr. Grisham) In the course of working on
22 the ignition propensity project at CORESTA, I
23 assume that ideas or, perhaps, research results
24 become known to the members of the project; am I
25 correct in that?

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1 A. Yes.

2 Q. Is that information something that you pass
3 along to Philip Morris U.S.A. and the other groups
4 that you might work with on ignition propensity
5 studies?

6 A. In general, yes.

7 Q. Is there some information that you're not
8 allowed to pass on or that for some reason cannot
9 pass from the CORESTA task force to Philip Morris
10 and the various groups that are working on ignition
11 propensities?

12 A. No, sir, not that I'm aware of.

13 Q. Has CORESTA and the different studies and
14 research that has been undertaken through CORESTA,
15 in fact, provided Philip Morris U.S.A. with
16 valuable research and data in terms of ignition
17 propensity studies?

18 A. Yes, sir, I believe so.

19 Q. As part of any of the CORESTA projects
20 research, have commercial Philip Morris brands of
21 cigarettes been tested for ignition propensity
22 qualities?

23 MR. CRAMPTON: I'm sorry, could you
24 just repeat the question for me? I was taking a
25 note.

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1 MR. GRISHAM: Yeah.

2 Q. (By Mr. Grisham) Through the CORESTA project
3 and any research undertaken in conjunction with the

4 project, have any Philip Morris commercial brand
5 cigarettes been tested for their ignition
6 characteristics, propensities or qualities?

7 A. No, sir, not to my knowledge.

8 Q. Have any of the other CORESTA member
9 commercial brand cigarettes been tested for
10 ignition propensity, qualities, characteristics?

11 A. No, sir, not to my knowledge.

12 Q. If I understood you a moment ago, CORESTA
13 doesn't have an ignition propensity laboratory --
14 testing laboratory; was I right?

15 A. To my knowledge, they do not have such a
16 laboratory.

17 Q. If a CORESTA project, test project, is
18 formulated and the parameters are set and testing
19 is undertaken, where would the testing take place
20 for ignition propensity?

21 MR. CRAMPTON: Objection. Sorry, I'm
22 just trying to make it very clear. You said where
23 would the testing take place. And it depends -- I
24 mean, you're talking about apparently something
25 that hasn't happened, so it's hard for him to say

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1 on that.

2 If you want to ask where did the testing
3 take place, he would know that.

4 MR. GRISHAM: Well, that's what I
5 intended to ask. Let me reformulate the question.

6 Maybe I can do a better job and not confuse the
7 witness.

8 Q. (By Mr. Grisham) Has any testing been
9 undertaken under the CORESTA project for ignition
10 propensity in a laboratory?

11 A. Yes, sir.

12 Q. Where has that testing been undertaken?

13 A. In various locations.

14 Q. Tell me where they are.

15 A. I'm not sure I can tell you all the locations.

16 Q. Tell me as many as you can.

17 A. One of them is here in Richmond in our
18 laboratory. I suppose the rest -- the data came
19 from the rest of the organization, so I don't know
20 the exact location where they did the work because
21 I wasn't present for the work.

22 But there was -- there has been data
23 reported from Japan Tobacco.

24 Q. What?

25 A. Japan Tobacco. Ecusta, Reynolds, Lorillard,

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1 Brown & Williamson, that I recall.

2 Q. And do you have access to that data as a
3 member of the project?

4 A. I have access to the data that was given to
5 the CORESTA group.

6 Q. Is that data contained in documentary or
7 electronic form or both?

8 A. It's a multipart question.

9 Q. Okay. Let's take it one by one. Is the data
10 from the CORESTA project maintained in documentary
11 form in any sense?

12 A. Yes, sir.

13 Q. In terms of the documentary data that you have
14 access to, is that contained -- is that here in
15 Richmond?

16 A. Yes, sir.

17 Q. Is any of the data from the CORESTA project
18 maintained in electronic form, whether it be on
19 CD-ROM, on tape, on video format, any electronic
20 format?

21 A. I don't know.

22 Q. About 15 or 20 minutes ago we were talking
23 about research outside the United States and you
24 mentioned the CORESTA project and also the B.A.T.
25 research. Has Philip Morris U.S.A. had access to

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1 any ignition propensity research conducted by or on
2 behalf of B.A.T.?

3 A. I don't know.

4 Q. When we were going through that line of
5 questioning about related entities, ignition
6 propensity research, both CORESTA and B.A.T. were
7 mentioned. What did you mean when you mentioned
8 B.A.T.? What idea was in your mind that prompted
9 you to mention the B.A.T. research or data?

10 A. B.A.T. is a member of the CORESTA group.

11 Q. Except for B.A.T.'s membership in CORESTA and
12 the information it may have provided to CORESTA
13 members, are you aware of any other research on
14 ignition propensity that has emanated from B.A.T.
15 that Philip Morris U.S.A. has had access to it?

16 A. No, sir, not to my knowledge.

17 Q. Are ignition propensity studies still being
18 undertaken by the CORESTA project?

19 A. Yes, sir.

20 Q. Are there any planned or proposed ignition
21 propensity studies through CORESTA now in the
22 works?

23 A. Could you help me with what "in the works"
24 means?

25 Q. In the planning stages, proposed.

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1 A. Yes.

2 Q. What is -- what are the parameters of the
3 proposed testing, the parameters and the
4 objectives?

5 A. One of the parameters I know of is to evaluate
6 the ignition propensity in a crevice with various
7 commercial fabrics.

8 Q. Which members are going to undertake
9 responsibility for that testing?

10 A. I don't know.

11 Q. Do you know where that testing will likely be
12 performed?

13 A. No, sir, I don't.

14 Q. How often do you attend meetings of the
15 CORESTA ignition propensity group?

16 A. To my knowledge, I've only missed one.

17 Q. Are they an annual event or monthly special
18 meetings?

19 A. They're generally special meetings, although
20 there is an annual CORESTA meeting.

21 Q. About how often are the special meetings held?

22 A. It's hard to say how often.

23 Q. Would it be at least once a year?

24 A. Historically it's been at least once a year.

25 Q. Would it be at least once a quarter?

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1 A. No, sir.

2 Q. Are the meetings of the group usually held in
3 France, or are they in various locations?

4 A. They're generally held in various locations.

5 Q. Have any of the CORESTA ignition propensity
6 project group meetings been held in the United
7 States?

8 A. Yes, sir.

9 Q. Have any of the results of the ignition
10 propensity project through CORESTA been made
11 available to persons or entities outside the group?

12 MR. CRAMPTON: The group being the task
13 force?

14 MR. GRISHAM: Yes.

15 A. Yes, sir.

16 Q. (By Mr. Grisham) Who or to which entities
17 have they been made available?

18 A. All the other members of the CORESTA
19 organization.

20 Q. Outside the CORESTA organization, have the
21 test results or information from the work of the
22 project been revealed to others?

23 A. Yes, sir.

24 Q. To whom?

25 A. Some of the data from the CORESTA work has

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1 been published in Peer Review journals.

2 Q. When it's published, is the CORESTA group
3 given credit for it, the publication and the work,
4 under the name CORESTA?

5 A. I don't recall.

6 Q. Has any branch of the federal or any state
7 government been provided information from the
8 CORESTA ignition propensity project?

9 A. Yes, sir.

10 Q. What groups have been provided that
11 information?

12 A. NIST was provided with some of the
13 information.

14 MR. MARKEY: I'm sorry, who?

15 THE WITNESS: NIST, N-I-S-T.

16 MR. MARKEY: Thank you.

17 A. CPSC, probably others.

18 Q. (By Mr. Grisham) What was the context of that

19 information being provided, was it by request of
20 these entities or for some other reason?

21 A. I recall, I believe it was at the request of
22 some of these organizations.

23 Q. Was the CORESTA ignition propensity project
24 developed to counter the studies that the NIST were
25 performing as a result of the Fire-Safe Cigarette

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1 Act of 1990?

2 MR. CRAMPTON: Object to the form. You
3 can answer.

4 A. No, sir, I don't think so.

5 Q. (By Mr. Grisham) Was there any effort by the
6 CORESTA ignition propensity project to disprove the
7 NIST work on fire-safe cigarettes?

8 MR. CRAMPTON: Object to form again.

9 You can answer.

10 A. I don't think so. Scientific data is --
11 generally speaks for itself, and it either is or
12 isn't correct.

13 Q. (By Mr. Grisham) Okay. Are you a member of
14 any associations or societies or fellowships in the
15 area of chemistry or tobacco science?

16 A. Yes, sir.

17 Q. Give me a list of those memberships, if you
18 will, please.

19 A. I'm a member of the American Chemical
20 Society. I'm a member of the A.S.T.M., the

21 American Society of Testing Materials. I can't
22 recall others, but I'm...
23 Q. There may be others?
24 A. Yes, sir. I'm also a member of CORESTA.
25 Q. Has the CORESTA project dealt with the issues

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1 of subjective -- the subjective components of the
2 cigarette design?
3 A. No, sir, not to my knowledge.
4 Q. Has it dealt with the issues of commercial
5 feasibility of reduced ignition propensity
6 cigarettes?
7 A. No, sir, not to my knowledge. I assume you're
8 referring to CORESTA?
9 Q. Yes. We'll talk about your other research
10 work in a minute. Right now I'm just talking about
11 CORESTA.
12 Have you received any awards or honorariums
13 in the field of chemistry?
14 A. No, sir, not that I recall.
15 Q. Have you ever worked on any research project
16 that -- that was funded, at least in part, by
17 government grants?
18 A. Would you restate that, please?
19 Q. Certainly. Have you ever worked on any
20 research project that was funded in any respect by
21 government grants?
22 A. Yes, sir.
23 Q. Tell me what those have been.

24 A. When I was working for General Electric, it
25 was part of NASA. When I was working for the Army,

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1 it was part of the U.S. Government.

2 Q. Any others?

3 A. Not that I can recall.

4 Q. Any grants dealing with --

5 A. Excuse me, except for perhaps when I was in
6 graduate school.

7 Q. Have any of the projects you've worked on
8 dealing with tobacco studies been funded in any
9 part by governmental grants?

10 A. Not that I'm aware of, no, sir.

11 Q. Do you have any experience teaching?

12 A. Yes, sir.

13 Q. What has that experience been?

14 A. Part of my graduate courses or graduate
15 experience, I taught, like all graduate students
16 do. I also was an adjunct faculty member of V.C.U.
17 here in Richmond when I first came to Richmond.

18 Q. What did you teach at V.C.U.?

19 A. Chemistry.

20 Q. When was the last time you were in a
21 classroom?

22 A. I don't recall.

23 Q. Has it been greater than five years ago?

24 A. Yes, sir.

25 Q. Greater than ten?

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1 A. I really don't recall. It was an infrequent
2 occurrence most of the time.

3 Q. Typically when you would lecture at V.C.U.,
4 was it on an invitation for a specific --

5 A. Yes, sir.

6 Q. -- time as opposed to teaching an entire
7 class?

8 A. It was both.

9 Q. Okay. Have you ever given your deposition
10 before?

11 A. Have I ever given a deposition before, yes,
12 sir.

13 Q. On how many occasions?

14 A. I don't recall.

15 Q. More than ten?

16 A. No, sir.

17 Q. More than five?

18 A. I don't recall.

19 Q. Something less than ten?

20 A. Yes, sir.

21 Q. Okay. Starting with the most recent
22 deposition before today, to the best of your
23 recollection, tell me when you -- or under what
24 circumstances you gave a deposition?

25 A. I gave a deposition to the Justice

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1 Department. I can't recall the date of that.

2 Q. Was it within the last year?

3 A. I don't think so.

4 Q. The last three years?

5 A. Yes, sir, I think so. Prior to that -- I'm
6 sorry.

7 Q. I'm sorry.

8 A. Go ahead.

9 Q. Was there any discussion of ignition
10 propensity in that deposition?

11 A. Yes, sir.

12 Q. Who was interrogating you at the Justice
13 Department?

14 A. I don't recall his name.

15 Q. Was there a single person, versus a panel?

16 A. There was both.

17 Q. Did you appear before employees of the
18 Department of Justice for this deposition, or was
19 it in a more private setting like we're at today?

20 A. I don't know.

21 Q. Was there a lawsuit pending that this
22 deposition arose from?

23 A. I think so.

24 Q. Do you know what the style or title of that
25 lawsuit was?

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1 A. I don't know what's meant by "style."

2 Q. The name, the parties, like Jones versus
3 Philip Morris?

4 A. No, I don't.

5 Q. Do you know what the circumstances of the
6 lawsuit were?

7 A. In general, I think so.

8 Q. Can you relate that to me, please?

9 A. As I understand it, we were under
10 investigation for working with the competition.

11 Q. It was an antitrust sort of --

12 A. To the best of my knowledge, something like
13 that.

14 MR. CRAMPTON: I could shorten this a
15 little bit if you --

16 A. You tell him.

17 MR. GRISHAM: Sure.

18 MR. CRAMPTON: There was a civil
19 investigative demand against Philip Morris and
20 other companies, and there was no case filed. In
21 the course of that there was some depositions,
22 including Dr. Whidby.

23 MR. GRISHAM: Okay. Thank you.

24 Q. (By Mr. Grisham) You agree with that?

25 A. Yes, sir.

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1 Q. All right.

2 MR. MARKEY: I don't want to interrupt,
3 but when was that?

4 MR. CRAMPTON: I think it was in '95,

5 but I don't remember.

6 MR. STANFORD: '94, '95.

7 A. So it was within the three-year time frame or
8 something like --

9 Q. (By Mr. Grisham) You're right.

10 A. Try to be.

11 Q. Excluding the Department of Justice deposition
12 you've just described, have you given any other
13 depositions that you can recall the circumstances
14 of or the timing of, in other words, about when you
15 gave it?

16 A. No, sir.

17 Q. Do you have any of those deposition
18 transcripts with you today?

19 MR. CRAMPTON: You.

20 A. Do I?

21 Q. (By Mr. Grisham) Yes.

22 A. No, sir.

23 Q. Do you have them available to you today?

24 MR. CRAMPTON: Do you have a copy of
25 the C.I.D. deposition transcript is the question?

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1 A. No, sir, I don't.

2 Q. (By Mr. Grisham) Do you know where any copies
3 are today?

4 A. Not exactly.

5 Q. Do you know generally where they might be?
6 Are there any copies in Richmond?

7 A. I assume there are.
8 Q. Are there any --
9 A. I don't know.
10 Q. -- copies in this building?
11 A. I don't know. I really don't know.
12 Q. When is the last time you saw a copy of any of
13 the deposition transcripts?
14 A. I don't recall.
15 Q. Within the last week?
16 A. No, sir.
17 Q. Within the last month?
18 A. No, sir, not that I recall.
19 Q. We've established, to the best of your
20 recollection, you've given somewhat less than ten
21 depositions. What I didn't ask you and I need to
22 ask you is whether or not each of those depositions
23 dealt with any respect to ignition propensity
24 studies?
25 A. Other than the one we just discussed?

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1 Q. Yes.
2 A. No, sir, not to my knowledge.
3 Q. Today's deposition is the first time you've
4 been asked to give testimony concerning ignition
5 propensity issues?
6 MR. CRAMPTON: Other than this one
7 deposition that you've talked about?
8 MR. GRISHAM: Yeah.
9 A. Yes, sir.

10 Q. (By Mr. Grisham) Okay. We've got the
11 Department of Justice deposition you've already
12 told me about, and that dealt to some degree with
13 ignition propensity?

14 A. Yes, sir.

15 Q. Obviously, we're talking today about it?

16 A. Right.

17 Q. Other than these two circumstances, have you
18 ever been asked to or have you given testimony in
19 any court proceeding or deposition setting
20 concerning ignition propensity issues?

21 A. No, sir, not to my knowledge.

22 Q. What documents or tangible things did you
23 review in preparation for your deposition today?

24 MR. CRAMPTON: Objection to the extent
25 that that calls for privileged information which

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1 would include any documents he reviewed in the
2 presence of counsel while meeting with counsel.

3 MR. GRISHAM: Are you directing the
4 witness not to answer?

5 MR. CRAMPTON: I am.

6 Q. (By Mr. Grisham) Are you going to take the
7 advice of counsel?

8 A. Yes, sir.

9 Q. Have you reviewed documents--I'm not asking
10 you what they are--but did you review documents or
11 tangible things in preparation for your deposition?

12 A. Other than --

13 Q. Don't tell me what they are because your
14 lawyer's made an objection.

15 MR. CRAMPTON: He's asking you whether
16 you did look at documents.

17 A. Oh, yes, sir.

18 Q. (By Mr. Grisham) Can you give me an idea of
19 the volume, whether in number of pages or inches of
20 documents or binders or however else you can best
21 quantify it for me?

22 A. Maybe about that much (indicating).

23 Q. Okay. About three or four inches?

24 A. Maybe, something like that.

25 Q. Are you familiar with the term "Project

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1 Delta"?

2 A. Yes, sir.

3 Q. Can you tell me what Project Delta is or was?

4 A. Project Delta, I can't tell you that because
5 there's been more than one Project Delta.

6 Q. How many Project Delta's have there been?

7 A. To my knowledge, two.

8 Q. What did Project Delta No. 1 deal with?

9 MR. CRAMPTON: Objection to the extent
10 that either of these Project Delta's may not have
11 anything to do with ignition propensity and to the
12 extent they may be trade secret.

13 If they're not relevant to the case, I will
14 instruct the witness not to answer it, but you can

15 establish whether they are related to ignition
16 propensity.

17 Q. (By Mr. Grisham) Was Project Delta No. 1 or
18 No. 2 related in any way to ignition propensity
19 studies?

20 A. Not to my knowledge.

21 Q. Were either Project Delta 1 or 2 related in
22 any way to the development or study of a fire-safe
23 cigarette?

24 A. Not to my knowledge.

25 Q. Or a reduced ignition propensity cigarette?

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1 A. I don't -- can you ask that again, please?

2 Q. Yes. Was there any aspect of Project Delta
3 No. 1 or No. 2 that dealt in any fashion with the
4 study of or research surrounding reduced ignition
5 propensity cigarettes?

6 A. I don't think so.

7 Q. Was there any aspect of Delta 1 or 2 that
8 yielded research materials or data that has been
9 relied upon by Philip Morris and its ongoing
10 studies of a reduced ignition propensity cigarette?

11 A. I don't think so.

12 THE WITNESS: I need to talk with you.

13 MR. CRAMPTON: Maybe now would be a
14 good time for a break.

15 (Brief recess.)

16 MR. CRAMPTON: Lynn, you were asking

17 questions about Project Delta, and I'm not sure the
18 question ever really got to it. I talked with
19 Dr. Whidby and learned that Project Delta was not
20 being looked into for anything related to ignition
21 propensity, but the things they were looking at may
22 have had an impact on I.P. incidentally.

23 So having learned that, I won't instruct the
24 witness not to answer questions on Delta.

25 Q. (By Mr. Grisham) Dr. Whidby, going just to

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1 the heart of the topic raised by counsel, what
2 aspects of Project Delta--either 1 or 2 or
3 both--had an impact on ignition propensity studies?

4 A. None that I'm aware of.

5 Q. How were any of the projects or work done on
6 Delta 1 or 2 related to ignition propensity?

7 A. Not that I'm aware of, none.

8 Q. Were any of the results of testing or data
9 collection in Delta 1 or 2 relied upon in either
10 ignition propensity studies or in the design or
11 evaluation of cigarettes with reduced ignition
12 propensity?

13 A. No, sir, I don't think so.

14 Q. Okay.

15 MR. GRISHAM: Is that not what you just
16 said?

17 MR. CRAMPTON: When you're talking
18 about ignition propensity studies, I think you're
19 talking -- or at least I think you're talking about

20 some sort of test where you're putting cigarettes
21 on some thing to determine whether there's an
22 ignition or not. None of that occurred.

23 MR. GRISHAM: I was talking about more
24 globally the fire-safe cigarette, the reduced
25 ignition propensity cigarette as a general

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1 topic--the subject of Hamlet.

2 MR. CRAMPTON: Maybe you could ask what
3 aspects of what you were looking at in Project
4 Delta would have had an impact on ignition
5 propensity. That might help.

6 MR. GRISHAM: If that will get me an
7 answer, I'll darn sure ask it.

8 Q. (By Mr. Grisham) Dr. Whidby, what aspects of
9 Delta 1 or 2 had an impact in any way on ignition
10 propensity?

11 A. I don't know of any that did.

12 MR. CRAMPTON: I would allow you to ask
13 about Project Delta and what they were looking at.

14 Q. (By Mr. Grisham) All right. What were you
15 looking at with Project Delta?

16 A. Delta 1 was a project in which we were trying
17 to come up with a design of a cigarette or a design
18 of a cigarette that would more efficiently create
19 smoke than our current products.

20 Q. Okay. Did that have to do with sidestream
21 smoke issues or environmental smoke issues?

22 A. I don't -- no, I don't think so. I don't
23 know.

24 Q. You were trying to -- or you were researching
25 the development of a cigarette that created less

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1 smoke?

2 A. No, sir.

3 Q. Or dispersed less smoke?

4 A. No, sir, I don't think so.

5 Q. What was it supposed to do? What was the
6 goal?

7 A. In a standard cigarette, it weighs about
8 three-quarters of a gram--the tobacco in it--but
9 let's say a gram, right. A round number is a
10 gram. And you burn a gram of tobacco to produce a
11 few milligrams of smoke, that's not very
12 efficient.

13 So the concept of Delta originally was to
14 have a more efficient smoke generation cigarette.

15 Q. How would that benefit the consumer or Philip
16 Morris, for instance?

17 A. Well, I mean, there's conceivable benefits
18 from less environmental smoke perhaps, right? That
19 could be one. There could be others.

20 Q. Okay. Such as?

21 A. Depends on how the design is. I mean, the
22 design is so important in that--what your goals
23 are.

24 Q. How did the work generated from Delta 1 or 2

25 carry over or provide carry-over data into the

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1 realm of the fire-safe cigarette?

2 A. To my knowledge, it didn't.

3 MR. CRAMPTON: Here's the struggle.

4 You're trying to convert Delta into some other --

5 you know, how did Delta become something other than
6 what it is.

7 MR. GRISHAM: Really what I'm trying to
8 do--and I'm not playing any sort of games with
9 you--I'm trying to figure out if something
10 developed in Delta, which I'm really not interested
11 in, somehow was used in the issue of developing or
12 testing a cigarette that may have had --

13 MR. CRAMPTON: Okay. You are getting
14 the right answers, then.

15 MR. GRISHAM: -- that may have had
16 ignition propensity and reduced ignition propensity
17 qualities.

18 MR. CRAMPTON: Okay. You're getting
19 the right answers. I mean, you can go ahead and
20 ask him again, if you'd like. How about this,
21 could we go off the record for just a minute? We
22 can all sit right here.

23 MR. GRISHAM: Sure.

24 (Discussion off the record.)

25 Q. (By Mr. Grisham) Dr. Whidby, with respect to

1 Delta 1 and 2, which I understand was an effort to
2 create a cigarette that would burn more efficiently
3 and create smoke more efficiently, correct?

4 A. Yes, sir. It creates smoke more efficiently.

5 Q. In so doing, did the research center around
6 altering the tobacco blend, or was that an aspect
7 of the research?

8 A. It did not center around altering the tobacco
9 blend.

10 Q. The blend alteration, was that a part of the
11 research that was done on Delta?

12 A. It could have been. I can't say that was...

13 Q. Tobacco density, was that an aspect of Delta
14 research?

15 A. Not to my knowledge.

16 Q. Paper porosity, was that an aspect of Delta 1
17 or 2?

18 A. Not in -- no, not to my knowledge. Not in
19 terms of -- no, not to my knowledge.

20 Q. Was cigarette size an aspect of research in
21 Delta 1 or 2?

22 A. Not to my knowledge.

23 Q. In the work that was conducted on Delta 1 or
24 2, did prototypical cigarettes used in testing tend
25 to self-extinguish?

1 A. What do you mean by "self-extinguish"?

2 Q. What I was thinking about was cease to burn
3 without someone making an effort to stop them from
4 burning.

5 MR. CRAMPTON: Before reaching the end
6 of a cigarette?

7 MR. GRISHAM: Yeah.

8 A. The problem with reaching the end of the
9 cigarette is these did not consume themselves. The
10 Delta 2 products, which was the evolution from
11 Delta 1, they didn't go -- they didn't get smaller
12 in length. So the term "self-extinguishing" is a
13 little bit vague.

14 Q. (By Mr. Grisham) Have you ever, in the course
15 of your work with Philip Morris, heard the term
16 "self-extinguishing cigarette" used?

17 A. Yes, I have.

18 Q. What does that mean to you?

19 A. It can have various meanings.

20 Q. Tell me what the meanings are to you.

21 A. One of the meanings is that during the -- when
22 you're smoking a cigarette, it will go out before
23 you finish it without doing anything to it, right.

24 Another meaning of self-extinguishing is if
25 you're evaluating a substrate that you're looking

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1 at for trying to measure something related to
2 ignition propensity, that it might go out on the

3 substrate before it burned its full length or
4 before it ignited the substrate and caused the
5 substrate to smolder.

6 Q. As I understood a moment ago, or I thought I
7 understood, in the course of Delta 1 or Delta 2,
8 prototypical cigarettes were not tested for their
9 effect on substrates, correct?

10 A. To my knowledge, they were not.

11 Q. Was any evaluation of Delta 1 or 2 cigarettes
12 made with respect to whether or not they would go
13 out while being smoked, which was Category 1 of
14 what you described as your understanding of
15 self-extinguishing?

16 A. It's a difficult question to answer. In Delta
17 2 -- Delta 2 you measured the number of puffs that
18 you got out of the article. And whether or not it
19 was eight puffs or ten puffs or six puffs, you
20 recorded -- you could record the number of puffs.

21 Q. Okay.

22 A. So, again, self-extinguishment there I don't
23 -- is a difficult term.

24 Q. As a part of the evaluation of Delta 1 or 2,
25 whether it was puff count evaluation or any other

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1 evaluation, was there any notation made or finding
2 reached that any of the subject cigarettes tended
3 to go out on their own while being smoked?

4 A. Not that I recall.

5 Q. Was there any other finding or evaluation

6 notation that dealt with Delta cigarettes
7 self-extinguishing before they reached the end of
8 the cigarette?

9 A. Generally on the Delta cigarette, one of our
10 concerns was how easy it is to light. Some were
11 very difficult to light, depending upon the carbon
12 heat source we used -- heat source used to heat the
13 tobacco. So the term "self-extinguishment" may
14 have been used there. I don't recall, but it may
15 have been.

16 Q. Okay. Who was the project leader for Delta 1
17 or 2?

18 MR. CRAMPTON: Assuming if there was a
19 different project leader, you would get two people
20 as an answer.

21 MR. GRISHAM: May get two, may get
22 one.

23 A. I don't recall who was project leader of
24 Delta 1. I was involved with Delta 2.

25 Q. (By Mr. Grisham) I'm sorry, the machine over

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1 here was zipping around, I couldn't hear what you
2 said.

3 A. I was involved with Delta 2. I was the
4 manager of the group that was in.

5 Q. Who was the manager of 1, if you recall?

6 A. I don't recall.

7 Q. Was there -- was there any other Delta project

8 other than Delta 1 or 2?

9 A. Not that I can recall. Let me be clear too.

10 Delta 1 and Delta 2 are terms that I'm using right
11 now, and I'm not sure the record really shows --
12 calls it Delta 1 or Delta 2. But I'm
13 distinguishing from the early phases of Delta to
14 the latter phases of Delta.

15 Q. Okay. Are there various levels of
16 confidentiality associated with Philip Morris
17 projects like Delta?

18 A. There are various levels of confidentiality.

19 Q. What are the names of these levels? Are they
20 secret, super secret, super-duper secret, or is
21 there some other means of describing the levels of
22 confidentiality?

23 MR. CRAMPTON: Assuming that there are
24 such names.

25 Q. (By Mr. Grisham) Okay. Or numbers, however

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1 else one might differentiate a level of
2 confidentiality?

3 A. Okay. Let's -- do the question, please.

4 Q. Sure. How are the different levels of
5 confidentiality with regard to Philip Morris
6 projects differentiated--numerically or by name or
7 otherwise?

8 MR. CRAMPTON: Can I throw another
9 possible in here?

10 MR. GRISHAM: Do whatever you want to.

11 MR. CRAMPTON: There may be levels of
12 confidentiality applied to documents, not at the
13 time they're written, but at the time they may be
14 requested for production in a case. And then there
15 may also be confidentiality levels within the
16 company without regard to litigation.

17 I don't know whether you're asking about
18 one, the other, or both. And it's -- I mean, I
19 think you're asking about not in relation to
20 production of documents for litigation, but the way
21 the company looks at it.

22 MR. GRISHAM: You're exactly right.

23 A. So you want to know how we classify our
24 documents?

25 Q. (By Mr. Grisham) Yes.

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1 A. The first classification is unclassified, it's
2 business. Of course, we don't want -- we try to
3 keep that within our own walls, too, of course.
4 There's a classification of confidential. There's
5 a classification of restricted, and there's a
6 classification of trade secret. These are
7 classifications I recall. I may have left one
8 out. I hope not.

9 Q. Were -- as you just described them, were they
10 advancing in their level of restriction or secrecy?

11 A. I think that's right. Business, confidential,
12 restricted and trade secret.

13 Q. Was Delta 1 and 2 classified ever as
14 restricted or confidential?
15 A. I recall them to be restricted projects, yes
16 -- or, excuse me, very confidential projects.
17 Which level of classification we had on them at the
18 time, I don't recall.
19 Q. As a part of the research in the Delta
20 projects, were ignition temperatures -- tobacco
21 ignition temperatures the subject of any research?
22 A. I recall looking at the tobacco ignition
23 temperatures as part of some of this general
24 physics of the system, yes.
25 Q. Did Delta result in the -- in the formation or

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1 formulation of a product?
2 MR. CRAMPTON: Product on the market?
3 Q. (By Mr. Grisham) Yeah, product first, and
4 then product on the market, second?
5 A. What's a product, please?
6 Q. Something that can be sold to the public.
7 A. I don't think we carried it far enough to be
8 able to say that it could be sold to the public.
9 Q. Was subjective testing ever done?
10 A. On?
11 Q. On Delta.
12 A. Yes, sir.
13 Q. It got to the prototypical form, though,
14 correct?
15 A. What's a prototypical form?

16 Q. Where items are manufactured in a -- within
17 certain parameters which are predetermined.

18 A. I'm not sure I can really say that we got that
19 far.

20 Q. Did Delta ever result in a test vehicle that
21 -- through which tobacco could be burned at
22 temperatures under 620 degrees Fahrenheit?

23 A. I don't think so.

24 Q. Is -- or was the Delta project related to
25 Project Beta or Project Sigma?

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1 A. Would you separate those questions, please?

2 Q. Yes. Was Project Delta related in any way to
3 Project Beta?

4 A. What do you mean "related in any way"?

5 Q. I'll have to let the word "related" have its
6 ordinary meaning to you because I don't know how to
7 define another way.

8 A. Since I don't know what you mean by related, I
9 don't know the answer.

10 MR. GRISHAM: Exhibit 2, please.

11 (Whidby Exhibit No. 2 was
12 marked for identification.)

13 Q. (By Mr. Grisham) Did Mr. Lanzillotti work on
14 Delta?

15 A. Yes, sir, Mr. Lanzillotti did.

16 Q. Sir?

17 A. Yes, he did.

18 Q. Did he also work on Beta or Sigma?

19 A. I recall Mr. Lanzillotti working on Sigma,
20 about Beta I don't recall.

21 Q. How about Mr. Lowsey (phonetics), did he work
22 on either Beta or Sigma?

23 A. Yes, sir.

24 Q. Did Project Delta involve any research with
25 tobacco fillers?

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1 MR. CRAMPTON: Which project?

2 MR. GRISHAM: Delta 1 or 2.

3 A. The word "filler," what do we mean by that?

4 Q. (By Mr. Grisham) It's my understanding that
5 additives can be made to tobacco, such as aluminum,
6 for instance; other items that are not tobacco, but
7 they can form part of the -- part of the tobacco,
8 the rod of the cigarette?

9 A. I understand that some work was done with
10 tobacco fillers.

11 Q. Did any of that work result in a product --
12 well, I won't use the term product. Did it result
13 in the manufacture of a cigarette that had lower
14 burning levels, temperature levels?

15 A. Not that I can recall.

16 Q. Did any of the additives or fillers result in
17 cigarettes intended to self-extinguish?

18 A. I don't know.

19 Q. I want to hand you what's been marked as
20 Exhibit 2 to your deposition. I'm going to ask

21 that after you've reviewed that you answer a few
22 questions for me about it.

23 A. Okay.

24 Q. Do you recognize that document?

25 A. No, I do not.

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1 Q. You've never seen it before?

2 A. I don't recall ever seeing it.

3 Q. Can I see it again? And if you need to look
4 at it in the course of my questions, I'll hand it
5 back to you.

6 Do you know Frank Watson?

7 A. Yes, I know Frank Watson.

8 Q. What is his position -- let me start over.

9 What was his position with Philip Morris U.S.A. in
10 January of 1980?

11 A. I'm not sure.

12 Q. Do you know what his position with Philip
13 Morris U.S.A. has been subsequently?

14 A. Not exactly.

15 Q. Okay. Do you have a general idea?

16 A. Yes.

17 Q. What is your general understanding?

18 A. Frank has held various positions of increasing
19 responsibility, I guess, over the years.

20 Q. What is his position today; do you know?

21 A. Do I know his position today? I think he's a
22 director.

23 Q. Do you know who Mr. Lanzillotti is?
24 A. Yes, sir.
25 Q. Back in 1980, what was his position with

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1 Philip Morris?
2 A. I don't know exactly.
3 Q. Did you work with him on any project?
4 A. Yes.
5 Q. What projects have you worked on with him?
6 A. I recall working with Mr. Lanzillotti on Delta
7 and Sigma. I can't recall whether he was working
8 on Beta or not.
9 Q. Has he worked on Project Tomorrow?
10 A. Yes.
11 Q. Do you recall a data handling system being
12 developed or implemented to handle the data
13 emanating from Project Delta?
14 A. I don't recall that.
15 Q. Do you recall the -- as a part of the research
16 done in Project Delta, the storage or plotting of
17 gas chromatographic spectra?
18 A. I don't recall that.
19 Q. Do you use that sort of data or have you used
20 that sort of data in other research you've done?
21 A. Yes, sir.
22 Q. How would it be used in your research?
23 A. Gas chromatographic data is used in a very
24 large number of ways--principally to either
25 characterize or quantify constituents of materials.

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1 Q. Can that sort of information be used to
2 evaluate burn characteristics of a material?

3 A. Yes, it probably can.

4 Q. Did the Phase 1 of the Delta project contain
5 -- deal with a cigarette investigation containing
6 iron oxide carbonate or a device that was made from
7 iron oxide carbonate?

8 A. Not to my knowledge.

9 Q. Did it deal with the creation of a device that
10 had a heat-generated flavor chamber?

11 A. I don't recall. I don't think so.

12 Q. Did the research surrounding the second phase
13 of Delta investigate the use of an electric heating
14 element in the flavor chamber?

15 A. I don't think so.

16 Q. What was Project Sigma?

17 A. Project Sigma's goal was to develop a
18 Delta-type cigarette with substantially reduced CO,
19 carbon monoxide.

20 Q. During what years was Project Delta ongoing?

21 Back to Delta.

22 A. I really don't recall, I'm sorry.

23 Q. Do you recall whether -- what years Project
24 Sigma was ongoing?

25 A. No, sir, I don't.

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1 Q. Did Sigma involve research that was different
2 or apart from what Delta had involved?

3 A. It was different than what Delta -- somewhat
4 different than Delta.

5 Q. What was the difference between Project Delta
6 and what was hoped to achieve in Project Sigma?

7 A. Project Sigma hoped to achieve a reduced
8 carbon monoxide heat source. I did say Sigma,
9 didn't I?

10 MR. CRAMPTON: Yes.

11 A. Yeah, that's right.

12 Q. (By Mr. Grisham) I thought you did. That's
13 what I understood.

14 Were both Sigma and Delta investigations
15 into altering the delivery of the cigarette?

16 A. I don't think so, no.

17 Q. Sigma was, though, or at least a component of
18 delivery was the subject of the investigation?

19 A. Not that I recall.

20 Q. Was there any research data generated or any
21 conclusions reached through the Sigma project
22 work --

23 A. I'm sorry, could we go back to the previous
24 question?

25 Q. Sure.

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1 A. Would you try that one more time?

2 Q. Okay. Did Sigma deal with the topic or the
3 componentry of cigarette delivery?

4 A. As far as CO goes, yes.

5 Q. Only as far as CO, though?

6 A. Yes, sir.

7 Q. Did any of the research generated --

8 A. I'm sorry, as far as CO goes, yes. There may
9 have been other components that Sigma also looked
10 at.

11 Q. Okay. Did any of the Sigma research or
12 experimentation or the conclusions reached
13 therefrom form any basis for data that was reviewed
14 in connection with ignition propensity?

15 A. Not that I'm aware of, no, sir.

16 Q. What was the scope of Beta? What was its
17 purpose?

18 MR. CRAMPTON: I just want to interpose
19 an objection with respect to Beta. Beta is an
20 ongoing highly trade secret project. I think
21 you're entitled to ask some general questions about
22 it to get an idea about what it is.

23 But I -- if it gets into too much detail,
24 too much forward looking, planning, anything like
25 that, I'm going to instruct the witness not to

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1 answer because it's not relevant -- the current
2 product development things would not be relevant.
3 And they're a highly trade secret which would

4 outweigh any potential relevance at all.

5 So I mean, you can go ahead, but at some
6 point there will be a stop on Beta if you get into
7 too highly a trade secret area, all right.

8 MR. GRISHAM: Okay.

9 Q. (By Mr. Grisham) Can you tell me what Beta is
10 about?

11 A. Yes, sir. Beta is -- can I contrast it with,
12 say, Sigma and Delta?

13 Q. Sure. However you can best explain it to me.

14 A. Sigma and Delta was -- the original objective,
15 as we said earlier, was to come up with a way of
16 generating smoke without burning tobacco, too much
17 tobacco. But we used a carbon heat source with
18 Delta and we used an iron carbide heat source with
19 Sigma to reduce the CO.

20 The concept with Beta is to use an electric
21 source so you don't have to burn anything, and you
22 use electrical heaters to heat the tobacco and
23 generate smoke that way. That's the general
24 concept of Beta. So it's evolutionary.

25 Q. Got you. Through the--evolution's a good

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1 word--of Delta and Sigma and Beta and the research
2 that was ongoing, was consideration given by you or
3 anyone at Philip Morris that you're aware of to the
4 potential benefit that these devices might have to
5 ignition propensity?

6 A. In general terms, a product or a potential

7 product like Beta which does not have a coal is
8 most likely not going to be a problem when it comes
9 to causing fires by carelessly handled cigarettes.

10 Q. Was that something that you or anyone in your
11 presence at Philip Morris ever discussed as a
12 possible benefit to this line -- evolutionary line
13 of research?

14 A. It was talked about, but it's not -- I mean,
15 it's just an obvious thing. It's not something you
16 really need to have great discussions about.

17 Q. I understand. Lawyers, though, have to ask
18 all these questions about even the obvious.

19 Under what circumstance was the benefit of
20 -- potential benefit of fire safety discussed in
21 terms of --

22 A. I don't recall.

23 Q. -- these projects? And as Counsel mentioned,
24 I believe Beta is an ongoing project, correct?

25 A. Yes, sir.

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1 Q. Are Sigma and Delta ongoing?

2 A. No.

3 Q. When was --

4 A. They're not ongoing.

5 Q. When was Beta begun?

6 A. I don't recall it, the exact time, or the
7 time.

8 Q. Was it within the last five years?

9 A. I believe so, yes.

10 Q. Within the last three years?

11 A. No. It's longer than three years.

12 Q. Longer than three, but within five probably?

13 A. It's more than five. How much more than five,

14 I can't recall.

15 Q. Fair enough. Was Beta ongoing while Project
16 Hamlet was ongoing?

17 A. Not that I recall.

18 Q. Did you ever work on Project Hamlet?

19 A. No, sir, I did not.

20 Q. Have you ever reviewed documentation dealing
21 with Project Hamlet?

22 MR. CRAMPTON: Outside of in
23 preparation for a deposition with counsel.

24 A. I've looked at various reports.

25 Q. (By Mr. Grisham) Did you look at those

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1 reports in conjunction with work that you were
2 doing or hoped to do with respect to Project
3 Tomorrow?

4 A. I don't recall any detail review of the Hamlet
5 documents.

6 Q. Do you recall why you reviewed the Hamlet
7 documents?

8 A. I've -- I've been a manager at Philip Morris
9 and a scientist at Philip Morris for a number of
10 years, and in the general course of doing business,
11 there's a lot of documents that I read.

12 Q. What is Project Tomorrow?

13 A. The goal of Project Tomorrow is to reduce the
14 number of fires from carelessly handled cigarettes,
15 reduce the number of fires caused from carelessly
16 handling cigarettes.

17 Q. How does that differ from the project goal of
18 Hamlet, if you know?

19 A. I don't know.

20 Q. When was Project Tomorrow implemented?

21 A. To my knowledge, Project Tomorrow was
22 implemented about 1987.

23 Q. At whose request was Tomorrow implemented?

24 A. I don't know who was the initiator of
25 Tomorrow.

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1 Q. Were you involved with Project Tomorrow from
2 its inception?

3 A. As far as I know.

4 Q. What was your beginning responsibility or job
5 title, probably would be more appropriate?

6 A. I was the manager of physical research
7 division.

8 Q. Was Project Tomorrow subsumed within or under
9 the umbrella of R&D?

10 A. Project Tomorrow was within R&D.

11 Q. Was it under the umbrella of the research
12 department or the development department?

13 A. It was responsibilities that spanned both

14 departments.

15 Q. Were you under the research department?

16 A. Yes, sir.

17 Q. Who worked on Tomorrow with the development
18 department?

19 A. At the inception, when -- when are you talking
20 about?

21 Q. The inception of Tomorrow.

22 A. I'm having a hard time. I don't recall who
23 was the responsible person then.

24 Q. Who was the responsible person over both
25 research and development in 1987 when Tomorrow

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1 began?

2 A. Dr. Jim Charles.

3 Q. I'm sorry?

4 A. Dr. Jim Charles was responsible for Tomorrow.

5 Q. Is he still with the company?

6 A. No, sir.

7 Q. Is he living?

8 A. Yes, sir, as far as I know he is.

9 Q. Is he retired, or did he go to some other job?

10 A. He's retired.

11 Q. Do you know where he resides?

12 A. Yes, sir.

13 Q. Where?

14 A. [DELETED], as far as I know.

15 Q. Do you have a written contract with Philip
16 Morris?

17 A. I don't know.

18 Q. You don't know whether or not your employment

19 is governed by a written contract or not?

20 A. I don't think so.

21 Q. Do you --

22 A. Well, that's a difficult question. I have

23 signed a non-compete agreement with Philip Morris.

24 But whether that's a contract for employment, I

25 mean, I -- I'm unclear, okay.

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1 Q. Okay.

2 A. That's the reason I answered I don't know.

3 Q. I understand.

4 MR. CRAMPTON: It's also a question of

5 relevance.

6 Q. (By Mr. Grisham) Did any personnel involved

7 with Project Hamlet work on Project Tomorrow?

8 A. Can we define what worked with -- "worked on"

9 meant.

10 Q. Well, that's a hard one.

11 A. Yeah.

12 Q. And I want you to be able to answer and feel

13 comfortable answering, so I'll do the best I can.

14 But in my mind "worked on or worked with" means

15 sharing of work. It means sharing responsibilities

16 or tasks with reference to a project, or perhaps

17 memoing one another on research that's being done.

18 It could be really broad, and that's how I intended

19 in its broadest sense?

20 A. In its broadest sense, people from Hamlet
21 shared information with people on Tomorrow. And so
22 in its broadest sense, yes.

23 Q. Beyond sharing information, though, task
24 forces from Hamlet didn't just fall over into the
25 next category of project and begin working on

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1 Tomorrow?

2 MR. CRAMPTON: Object to the form.

3 A. All the people working on Hamlet didn't go to
4 work on Tomorrow.

5 Q. (By Mr. Grisham) Did any of the people go to
6 work on Tomorrow?

7 A. I don't know the answer to that question
8 because I don't know.

9 Q. At any time in the past, has Project Tomorrow
10 had an identifiable, distinct location?

11 A. Not that I know of.

12 Q. Is Project Tomorrow research conducted in the
13 R&D complex?

14 A. Yes.

15 Q. Does Tomorrow have any portion of any
16 laboratory dedicated to its testing and research?

17 A. Yes.

18 MR. CRAMPTON: I'm sorry, did you ask a
19 portion of a lab?

20 MR. GRISHAM: A laboratory or any
21 portion of a laboratory.

22 Q. (By Mr. Grisham) Is it the same laboratory or
23 a portion of the laboratory that Hamlet research
24 had been undertaken in?
25 A. I don't know.

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1 Q. Are the results of Tomorrow research,
2 including data-gathering assembly--the reports
3 resulting from data assembly--maintained on any
4 electronic storage system, including computer
5 disks, tape, drive or other means of electronic
6 storage?

7 A. Some may be.

8 Q. What form of electronic storage does that --
9 are they stored on or in?

10 A. Probably all the ones you just mentioned.

11 Q. Are there any of those means of storage that
12 are word searchable by key word?

13 A. I don't know.

14 Q. Who would be the person who would have
15 knowledge about that particular topic?

16 A. I could acquire that knowledge.

17 Q. How would you go about doing it?

18 A. I'd talk to the people working on Tomorrow and
19 find out whether or not they have any key word
20 searchable documents like that.

21 Q. At Philip Morris U.S.A., particularly in your
22 management area, do the people who work for you
23 have individual computer stations?

24 A. Some do.

25 Q. Are those connected to some mainframe or are

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1 they specific to the individual and person?

2 A. Some are connected.

3 Q. And some are personal computers?

4 A. There may be some that are not connected.

5 Q. In terms of the hierarchy of the Tomorrow
6 project, you're the manager. Who comes next in
7 hierarchy in terms of responsibility or leadership
8 or decision-making or any of those combinations of
9 things?

10 MR. CRAMPTON: Object to form.

11 A. I'm sorry, would you repeat the question?

12 Q. (By Mr. Grisham) I'm trying to speed things
13 up best I can. Who comes under you in terms of
14 authority on Project Tomorrow?

15 A. A number of people.

16 Q. Okay. Can you name them for me?

17 A. Dr. Bill Dwyer, Dr. Francis Shoe (phonetics),
18 Mr. Tyrone Murray.

19 Q. Any others?

20 A. Directly?

21 Q. Yes.

22 A. No, I don't think so.

23 Q. Approximately how many persons are involved in
24 work on the Tomorrow project today?

25 A. I'd say less than 60, more than 40 probably.

1 Q. Has that same --

2 A. And that's -- it's a variable, flexible
3 situation.

4 Q. That's what I was going to ask you. Has that
5 number between 40 to 60 remained fairly constant
6 within that range since Tomorrow began in 1987?

7 A. No, sir.

8 Q. Give me an idea from 1987 forward, typically,
9 the range of human resources devoted to the
10 project.

11 A. It's a very difficult question. It's grown
12 over the years from 1987 forward. I don't think
13 it's ever been fewer than, say, 10 or 15, and
14 probably not many more than what we have right now.

15 Q. From 1987 to the present, have you had any
16 other responsibilities in your work with Philip
17 Morris other than the management of the Tomorrow
18 project?

19 A. Yes, sir.

20 Q. Approximately what percentage of your time
21 would you estimate from 1987 to the present that
22 you've committed to the Project Tomorrow versus
23 those other areas of work?

24 A. Just a grand -- grand average, huh?

25 Q. Yeah.

1 A. Probably on the order of 50 percent over that
2 period of time, I would guess. I mean, that's a
3 raw guess.

4 Q. With respect to the people that have worked on
5 the project for you, we've estimated -- or you've
6 estimated for me no fewer than 10 or 15 and maybe
7 up through today 40 to 60. Are those persons who
8 are dedicated to this project solely, or are they
9 people like yourself that may offer a percentage of
10 their time to this project and a percent to others?

11 A. There are people who are totally dedicated to
12 this project--technicians, for example--and then
13 there's other professionals who may have some
14 responsibilities, and then it depends in other
15 areas.

16 Q. Who followed Mr. Jim Charles in the -- he was
17 the person you reported to in 1987, correct?

18 A. Yes.

19 Q. Who followed him in that role?

20 A. I don't think anybody followed him in that
21 role.

22 Q. When did he retire?

23 A. I don't recall exactly. Four or five years
24 ago.

25 Q. Who did you begin to report to with respect to

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1 Project Tomorrow after Jim Charles retired?
2 A. I believe I reported to Mr. Bill Kuhn.

3 Q. How do you spell his last name?

4 A. K-u-h-n.

5 MR. CRAMPTON: You know, I just want to
6 throw something in. It may be that -- I don't know
7 this, but it may be that Dr. Whidby took over the
8 role that Charles was playing with respect to
9 Project Tomorrow without taking the title. So
10 that's -- that may be a little bit of a
11 miscommunication.

12 MR. GRISHAM: All right. I'll move
13 right to that.

14 Q. (By Mr. Grisham) Dr. Whidby, when Mr. Charles
15 retired, did you assume the responsibility for
16 Tomorrow that he had -- he had enjoyed before his
17 retirement?

18 A. Yes, sir.

19 Q. But you didn't necessarily change the title
20 that you -- of your employment with Philip Morris,
21 correct?

22 A. That's right, yes, sir.

23 Q. So you maintained your status as a manager,
24 but you didn't have Mr. Charles' position over
25 you. You really consumed --

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1 A. Yes.

2 Q. -- that position?

3 A. Right.

4 Q. Who did you report to then that had been above

5 Mr. Charles?

6 A. Dr. Kenneth Houghton.

7 Q. Can you spell that name?

8 A. H-o-u-g-h-t-o-n.

9 Q. Is he still in the position of being the
10 person you report to on Tomorrow issues?

11 A. Yes, sir.

12 Q. What is his title with the company? Is he a
13 director?

14 A. Vice-president, senior vice-president of
15 research and development.

16 Q. When Project Tomorrow ensued in 1987, what was
17 the initial focus of the research?

18 A. Initial focus in 1987 was to determine ways to
19 reduce the mass burn rate of the cigarette.

20 Q. Is mass burn rate sometimes referred to simply
21 as M.B.R. in your research and reporting of the
22 results?

23 A. It could be referred to as M.B.R.

24 Q. Why was mass burn rate something that was
25 primarily or initially focused on in the research

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1 to reduce the number of fires caused from
2 carelessly handled cigarette products?

3 A. At that time the focus was on mass burn rate
4 because it was felt that reducing the mass burn
5 rate was the right direction to carry the products
6 or to do the research in.

7 Q. Were you involved in the formulation of that

8 focus?

9 A. Yes, to some extent.

10 Q. What is mass burn rate?

11 A. The amount of tobacco burned per unit time.

12 Q. In 1987 was the mass burn rate something that
13 could be altered with respect to the cigarette?

14 A. Yes. I mean, you can always -- yes.

15 Q. What are the ways that one would alter mass
16 burn rate?

17 A. There are many ways to alter mass burn rate.

18 Q. Tell me as many as you can think of sitting
19 here, offhand, today.

20 A. One would be to reduce the circumference of a
21 cigarette. Another one might be to change the
22 paper to reduce the permeability of the paper.

23 Q. Okay. Can you think of any others offhand?
24 Would tobacco density be something?

25 A. In general, tobacco density doesn't reduce the

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1 mass burn rate.

2 Q. Would paper additives or tobacco additives be
3 another aspect of burn rate reduction?

4 A. Take paper itself, various parameters
5 associated with the paper can be used to change the
6 way the cigarette burns, yes.

7 Q. And at least in the initial phases of the
8 project in 1987, you and others with you on the
9 project felt like reducing the mass burn rate might

10 have a positive effect on fire reduction?

11 A. I can't say that.

12 Q. Did you think that reducing the mass burn rate
13 was the most plausible place to begin in your
14 research in hopes of reducing fires caused from
15 cigarettes?

16 A. It was the area that we felt that we could
17 start a research on.

18 Q. Did you start with that area because you
19 thought that offered the most promise in achieving
20 your goal?

21 A. Yes.

22 Q. And in embarking on that particular path, did
23 you or any of the other folks involved with Project
24 Tomorrow rely upon the research that had been
25 undertaken in Project Hamlet?

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1 A. Yes, some of the research in Project Hamlet.

2 Q. In terms of conducting the particular
3 research, did Project Tomorrow in 1987 use test
4 protocols that were the same or very similar to
5 what the California standards were for burn
6 testing?

7 A. We used some of the parameters in the
8 California standard test, as I recall.

9 Q. Okay. Describe for me what sort of burn tests
10 were done during the initial phases of the project
11 when you were hoping to reduce the mass burn rate
12 and see how that responded.

13 A. Very little, if any, mass -- I mean, burning
14 tests were done. That was the reason we were
15 concentrating on mass burn rate.

16 Mass burn rates are relatively easy things
17 to measure. Measuring whether or not the substrate
18 is ignited or not is a very difficult thing to do,
19 time consuming. So we felt it was expedient to
20 look at mass burn rate rather than look at the
21 California testing, for example. Although we did
22 -- we looked at those things just to have an idea
23 of what was going on with some of the testing
24 protocols.

25 Q. Was any mass burn rate testing done on

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1 commercial brand Philip Morris products?

2 A. The mass burn rate is a calculated number,
3 right. And if you get -- if you know the linear
4 burn rate--that is how fast it burns in length per
5 unit time--which is something we typically measure,
6 and I know the density, it's very easy to calculate
7 the mass burn rate.

8 Q. Okay. So with knowledge that you already had,
9 you, in 1987, would have been able to calculate the
10 mass burn rate of a Marlboro, for instance?

11 A. Calculate the mass burn rate of any cigarette
12 if I know the linear burn rate.

13 MR. CRAMPTON: And the mass.

14 A. And the density, yes.

15 MR. MARKEY: Excuse me, Lynn. And
16 density. is that what you said?

17 THE WITNESS: Yes.

18 Q. (By Mr. Grisham) Understanding that,
19 nevertheless, was any mass burn rate --

20 A. Let me just make that real clear there. I
21 also have to know the circumference, if I know the
22 density, right.

23 Q. Understanding that, nevertheless, was any mass
24 burn rate testing done on an off-the-shelf
25 cigarette, Philip Morris product?

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1 MR. CRAMPTON: Objection; he told you
2 it's not tested, it's calculated.

3 MR. GRISHAM: Okay, he said he
4 calculated. I just want to know if he also did
5 burn testing?

6 A. You mean -- what kind of burn testing?

7 Q. (By Mr. Grisham) With respect to mass burn
8 rate research that you have been involved with at
9 Philip Morris, have you or any of the persons under
10 your direction done any sort of mass burn rate
11 testing, not calculation, but actual burn testing
12 of any commercial Philip Morris product?

18 it on a substrate?

19 MR. GRISHAM: It could be either. I
20 intend it to be broad enough to be both.

21 MR. CRAMPTON: Okay. Because mass burn
22 rate testing would not -- I mean, by definition
23 would not be ignition testing.

24 MR. GRISHAM: Right. Those are all
25 questions I've got lined out. But first, we're

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1 starting with mass burn rate.

2 A. Can we go one at a time, then?

3 Q. (By Mr. Grisham) Yeah. Was there any mass
4 burn rate testing just of the product, commercial
5 product?

6 A. Not that I recall.

7 Q. Was there any ignition testing done with any
8 commercial Philip Morris product through Project
9 Tomorrow at any time?

10 A. Not to my knowledge, no.

11 Q. Do you know of any ignition testing that's
12 ever been done outside the United States government
13 testing of any commercial Philip Morris product?

14 A. Yes.

15 Q. What research is that?

16 A. I'm aware of some work that was done by
17 American Tobacco that attempted to replicate the
18 results that was done by the NIST group.

19 Q. Okay. Was that information acquired through

20 the CORESTA project?

21 A. No, sir, it was not.

22 Q. How was it acquired by you?

23 A. Through the Joint Venture project.

24 Q. Are you aware of any linear burn rate testing

25 of any commercial Philip Morris product?

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1 A. As part of our normal measurement of cigarette
2 parameters, we look at the linear burn rate quite
3 frequently.

4 Q. Was that through the calculation that you
5 talked about earlier; or was that literally a test,
6 a linear burn rate test, on a commercial Philip
7 Morris product?

8 A. As part of our normal quality testing, we'd
9 look at the -- we call it the static burn time, how
10 long it takes a cigarette to burn a particular
11 length of time. From that you can calculate the
12 linear burn rate of a cigarette.

13 Q. And that's what -- a moment ago you were
14 talking about taking that known information and
15 being able to calculate the mass burn rate,
16 correct?

17 A. Yes, right.

18 Q. So you didn't take any effort or make any
19 effort special and apart from what is typically
20 done to the commercial cigarettes to test it to do
21 the calculations?

22 A. Repeat the question one time, please.

23 Q. Yeah, let me do that better. In calculating
24 the mass burn rate for the commercial Philip Morris
25 brands, as I understand it you didn't make any

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1 special effort to burn those particular products.
2 You went back and found the standard burn times
3 research that was done separate and apart from your
4 project and were able to calculate from that the
5 mass burn rate?

6 A. That is my recollection.

7 Q. You didn't do any separate testing the
8 commercial product to establish the burn, do you?

9 A. I don't recall.

10 Q. The mass burn rate?

11 A. I don't recall doing it.

12 MR. GRISHAM: I think we're running out
13 of tape.

14 (Lunch recess.)

15 Q. (By Mr. Grisham) Dr. Whidby, earlier in your
16 testimony you talked about being involved in
17 research on a Joint Venture. Do you recall that
18 testimony?

19 A. Yes, sir.

20 Q. What were you referring to with respect to the
21 Joint Venture?

22 A. Joint Venture was a group of U.S. domestic
23 tobacco companies tasked with the -- or charged
24 with trying to find the method for evaluating

25 ignition propensity of cigarettes.

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1 Q. How did that Joint Venture come into
2 existence?

3 A. I'm not exactly sure.

4 Q. How did you learn about its existence?

5 A. I don't recall exactly. I think Dr. Jim
6 Charles told me about it, but I don't recall
7 exactly.

8 Q. Are you still working on the Joint Venture?

9 A. No, sir, I'm not.

10 Q. During what time period was the Joint Venture
11 ongoing?

12 A. I don't recall exactly.

13 Q. Can you give me a -- your best estimate?

14 A. I don't recall when it started. It's been not
15 in existence for about the six-month period or
16 something of that nature, I think.

17 Q. So it ended sometime in 1996?

18 A. I think that's right.

19 Q. Do you recall approximately when it began?

20 A. '89. I really don't know. '89, '90, probably
21 somewhere in that era.

22 Q. Did the Joint Venture -- what was the official
23 name of the project?

24 A. I don't recall.

25 Q. You just referred to it as the Joint Venture?

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1 A. I personally refer to it as the Joint Venture,
2 yes.

3 Q. Fair enough. Did it complement or supplement
4 in any way the work that you were doing on
5 Tomorrow?

6 A. There were certain aspects of the Joint
7 Venture that were -- had some commonality with
8 Tomorrow, although not a perfect overlap.

9 Q. Do you know how the Joint Venture was funded?

10 A. Yes.

11 Q. How?

12 A. By the tobacco companies.

13 Q. Was the Tobacco Institute involved in the
14 Joint Venture?

15 A. I don't think so.

16 Q. Were any industry participants involved in the
17 Joint Venture, outside the tobacco industry?

18 A. No, not to my knowledge.

19 Q. Were there any governmental employees involved
20 in the Joint Venture?

21 A. No, sir, not to my knowledge.

22 Q. Did the Joint Venture undertake research
23 different than what CORESTA had undertaken?

24 A. Yes.

25 Q. How was it different?

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1 A. The Joint Venture was primarily interested in
2 coming up with a test method that would allow the
3 evaluation of ignition propensity of cigarettes on
4 commercial fabrics in a more real world sense.

5 Q. Okay. Through any of the research that you
6 have been familiar with, whether you conducted it
7 or studied others research, are you aware of any
8 research or study having been conducted on the
9 issue of cigarette related fires in automobiles?

10 A. I'm not aware of any research on cigarette
11 related fires in automobiles.

12 Q. Are you aware of any testing having been
13 conducted on that topic?

14 A. No, sir, I'm not.

15 Q. When we broke for lunch today, we were
16 discussing the measurement and evaluation of mass
17 burn rate and -- as a part of the Tomorrow
18 project. Were you or the other participants in
19 Project Tomorrow able to arrive at any conclusions
20 on the issue of whether mass burn rate was an
21 appropriate topic for focus in ultimately creating
22 a cigarette that would meet the goals of Project
23 Tomorrow?

24 A. Yes.

25 Q. What was that conclusion?

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1 A. The conclusion was that mass burn rate was not
2 good enough of a predictor of how a cigarette
3 performs on upholstery furniture to use mass burn

4 rate.

5 Q. What other issues of tobacco and cigarette
6 research were looked at by Project Tomorrow other
7 than mass burn rate in attempting to achieve the
8 goals of Tomorrow?

9 MR. CRAMPTON: Is there a time frame on
10 that?

11 MR. GRISHAM: What I'd like to do, if
12 he could, is just start from the beginning--we've
13 already talked about mass burn rate--and bring it
14 up to the present.

15 A. We looked at mass burn rate, of course, we
16 just discussed, and we found that was not a perfect
17 -- not a good predictor even of real world
18 upholstery fabrics.

19 As a matter of fact, mass burn rate can lead
20 you astray. You can have a low mass burn rate and
21 have more ignitions on some fabrics than you would
22 if you had a high mass burn rate cigarette. So we
23 had reversals on commercial upholstery fabrics with
24 those cigarettes and those reversals have been
25 confirmed numerous times.

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1 We also looked at various parameters of
2 cigarette paper. We looked at the density of the
3 cigarette. We looked at the circumference of the
4 cigarette. We looked at the blend type. We looked
5 at -- I'm sure I must be leaving something out, but

6 I can't recall right now. We looked at practically
7 every parameter we could think of for the cigarette
8 to evaluate.

9 Q. (By Mr. Grisham) Are these studies still
10 going on with Project Tomorrow?

11 A. Yes, sir. There are studies still going on.

12 Q. What are the studies focusing on at the
13 present time, you know, the 1995 or 1996 time
14 period on the ignition propensity and the
15 development of a cigarette that would meet the
16 goals of Project Tomorrow?

17 MR. CRAMPTON: I want to interpose an
18 objection. It's similar to the objection that I
19 talked about before with Project Beta.

20 To the extent that there's any product
21 development work going on that's ongoing right now
22 that's trade secret, we object to that, and I'll
23 instruct the witness not to answer questions
24 related to that because it's not relevant and it's
25 trade secret. But I think the way you've framed

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1 this question I don't have a problem with him
2 answering.

3 A. Our primary focus at this time is on the
4 properties of the paper.

5 Q. (By Mr. Grisham) Is the -- are the properties
6 of the paper that you are focusing on now the
7 porosity of the paper?

8 A. I'm having a very difficult time answering

9 this question because it does lead to trade secret
10 stuff.

11 Q. I assume that trade secret matters are matters
12 that are outside the area of reduced ignition
13 propensity cigarettes?

14 MR. CRAMPTON: Well, I'm talking about
15 product development which either is or isn't
16 related to reduced ignition propensity cigarettes
17 from this point forward, plans for the future as
18 opposed to what's been done up to this point. See
19 what I'm saying?

20 MR. GRISHAM: I do. You're instructing
21 him not to answer questions about plans for the
22 future with respect to the reduced ignition
23 propensity cigarette research?

24 MR. CRAMPTON: With respect to any
25 research, right.

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1 MR. GRISHAM: Okay.

2 Q. (By Mr. Grisham) With respect to work that
3 has been ongoing through today dealing with the
4 cigarette paper, have you dealt with permeability
5 or the porosity of the paper as a component of
6 perhaps reducing the ignition propensity of
7 cigarettes?

8 A. Yes, sir, we have.

9 Q. Currently do you, in conducting the research
10 on the permeability, measure the paper's

11 permeability in CORESTA units?

12 A. Yes, sir, we do.

13 Q. How do the old -- how does the old Greiner
14 measurement correlate or compare to CORESTA
15 measurement that you're using today?

16 A. I'm not going to be able to do the translation
17 for you because I didn't bring the formula in my
18 head.

19 Q. I've got it here somewhere, but I was talking
20 about generally.

21 A. In general terms, CORESTA -- low numbers on
22 the CORESTA, say, 5 or 10 CORESTA correspond to
23 high numbers on the Greiner scale.

24 Q. Okay. So a lower CORESTA number would be less
25 permeable?

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1 A. That's correct.

2 Q. And would create a slower burn rate typically?

3 A. All other things being equal.

4 Q. Yes. Through today have you or anyone at
5 Philip Morris that you're aware of through a
6 combination of any of the factors we've talked
7 about in terms of altering the design of a
8 cigarette been able to create a cigarette or a
9 prototype of a cigarette that has the effect of
10 having a reduced ignition propensity in real world
11 situations?

12 A. I don't know.

13 Q. If such a cigarette or a prototype had been

14 created at Philip Morris, would you be likely to
15 know about it, given the position that you hold
16 with the company?

17 A. I believe so, yes.

18 Q. Are there circumstances in your mind that lead
19 you to the conclusion you may not know about some
20 research that's gone on in the area of reduced
21 ignition propensity?

22 A. No, sir.

23 Q. And the reason I ask is you said you don't
24 know if such a cigarette has been produced yet,
25 although you're in a position that if it had, you

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1 probably would know, correct?

2 A. Yes.

3 MR. CRAMPTON: I think the reason he
4 said he didn't know is that you can't tell, based
5 on what's known today, whether something is reduced
6 ignition propensity in the real world. And that's
7 the reason he doesn't know.

8 MR. GRISHAM: Okay.

9 Q. (By Mr. Grisham) Have you or has anyone at
10 Philip Morris developed a cigarette that you
11 believe, because of tests that you've undertaken,
12 may have a reduced ignition propensity
13 characteristic in a real world application?

14 A. Again, I don't know.

15 Q. Why don't you know?

16 A. I don't know because I don't know how to
17 describe the real world and what kind of tests I
18 would have to do in order to say whether or not a
19 particular cigarette would be reduced in the real
20 world.

21 Q. It's virtually impossible to replicate every
22 real world situation in which a cigarette might
23 ignite a substance, correct?

24 A. I think that's very difficult, yes.

25 Q. Have you attempted or has anyone at Philip

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1 Morris attempted to create parameters that would
2 satisfy the requirements of determining the real
3 world interactions of cigarettes to potentially
4 flammable substances?

5 A. What we have done at Philip Morris is to look
6 at the parameters that we know are present in the
7 real world and try to evaluate those parameters on
8 various cigarette design parameters.

9 Things such as the fabric type, what kind of
10 fabrics are out there and the proportion of
11 fabrics. We're told by the fabric industry that
12 they don't even know what the preponderance of the
13 fabrics are in the real world. So that's one --
14 that's perhaps one, if not the overriding issue.

15 Others are configurations that are available
16 on the upholstery fabrics. The humidity in the
17 room. You know, a day like today with the humidity
18 outside being very high, that will affect whether

19 or not a cigarette will ignite a piece of
20 substrate.

21 The other would be the geometry that the
22 cigarette might fall into. There's a huge number
23 of parameters that are out there. We've looked at
24 all of those. We've looked at various parts of all
25 those and tried to assess that.

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1 Q. And given the fact that you've looked at all
2 those different parameters, has there been any sort
3 of cigarette design that has enhanced the ignition
4 propensity of the cigarette?

5 MR. CRAMPTON: Increased or reduced,
6 when you say "enhanced"?

7 Q. (By Mr. Grisham) Enhanced the safety. In
8 other words, made it less likely to ignite
9 substrate?

10 A. We have some parameters. When looked at
11 across, some of the -- of the external environment
12 parameters will reduce the likelihood of that
13 cigarette igniting the substrate.

14 Q. Okay. What are those parameters?

15 A. There's one parameter that I feel more
16 comfortable with than any of the other parameters.
17 And that parameter is the banded papers that we
18 have under develop now -- development now. To say
19 anything more about those is definitely in
20 proprietary area.

21 Q. Research at Philip Morris, along with outside
22 vendors with respect to banded papers, has been
23 going on for many, many years, hasn't it?

24 A. Yes, it has.

25 Q. As you sit here today in August of 1996, I

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1 believe I hear you saying that you think the most
2 promise or hope in the future lies with research
3 related to banded cigarettes in reducing --

4 A. That is my --

5 Q. -- fires related to cigarettes?

6 A. As we sit -- as I sit here today, that is my
7 opinion, that's correct, as a researcher.

8 Q. How far away is Philip Morris from having such
9 a product like that available in the future?

10 MR. CRAMPTON: Objection; instruct the
11 witness not to answer. That's getting into the
12 trade secret. And we're now four plus years away
13 from the fire, so its relevance has diminished
14 quite a bit over time.

15 Q. (By Mr. Grisham) Are you going to follow the
16 attorney's advice?

17 A. Yes, sir.

18 Q. In undertaking research with respect to
19 Project Tomorrow, your goal and mission was to
20 reduce or to do research leading to the possibility
21 of the reduction of the number of fires caused from
22 cigarettes, correct?

23 A. Not exactly.

24 Q. Okay. How did I misstate it?

25 A. What we want to do is to reduce the number of

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1 fires caused by the careless handling of
2 cigarettes.

3 Q. Okay. In so doing that, did you take a look
4 at any statistical information on where fires
5 occur, under what circumstances they occur, and any
6 other demographical or other evidence of fire
7 causation?

8 A. Would you please restate the question?

9 Q. Sure. In undertaking the goal of Project
10 Tomorrow, did you or anyone on your team, that
11 you're aware of, look at statistical evidence on
12 fire causation to assist you in doing your
13 research?

14 A. We looked at statistical information that was
15 made available to us. I don't know exactly how it
16 assisted us in our research, though.

17 Q. Okay. What sort of statistical information
18 were you provided?

19 A. Reports by N.F.P.A., National Fire Prevention
20 Association. Other organizations, we were aware of
21 some of those reports.

22 Q. From that information that you got from the
23 N.F.P.A. or other sources, did you -- were you able
24 to find information leading you to know what sort
25 of substances were most likely to be involved in

1 cigarette ignitions within the home?

2 A. As I recall, the ones most likely associated
3 with smoking-related materials were -- and the ones
4 we concentrated our efforts on were the upholstery
5 furnitures -- upholstered furniture.

6 Q. Are most home fires that are attributable to
7 smoking-related materials fires that originate in
8 upholstered furniture or bedding?

9 A. Is the question and/or bedding, or is it or
10 bedding?

11 Q. And/or.

12 A. And/or bedding. That's my understanding, yes.

13 Q. Do you know from the N.F.P.A. what their
14 statistical analysis has been in terms of what
15 percentage of home fires related to cigarettes or
16 smoking-related paraphernalia are involving
17 upholstered furniture or bedding?

18 A. I don't recall.

19 Q. By cigarettes and smoking-related materials,
20 are you excluding matches and lighters?

21 A. I can't recall whether that data excluded or
22 did not exclude it.

23 Q. In compiling this information about home fires
24 and learning that most related to smoking-related
25 materials are in bedding or upholstery, were you

1 then able to -- or did you then go and research
2 further what is the most likely type of material
3 that would be involved with the upholstered
4 furniture or bedding?

5 A. What do you mean by "material," please?

6 Q. Substrate and covering.

7 A. We undertook to try to find something out
8 about that and was -- we were not successful in
9 finding out from either the fabric industry or the
10 upholstery industry what the most prevalent one
11 was.

12 Although we did a number of surveys through
13 the Joint Venture, going out and buying upholstery
14 furniture, looking at the properties of that --
15 going out, excuse me -- going out and buying
16 upholstery material, looking at the properties of
17 that material, as far as the weight and the texture
18 and all the parameters associated with fabric,
19 trying to assess what the most common one was that
20 we could buy, we did that kind of thing.

21 Q. What were the conclusions of that research?

22 A. Conclusions of the research was that, one,
23 there's a wide array of fabrics that are out
24 there. Most of the upholstery fabrics we looked
25 at, the vast majority did not ignite by any

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1 cigarette.

2 In order for a fabric to be ignitable, it
3 had to have a large concentration of metallines in
4 it.

5 Q. Salts?

6 A. Salts, that's correct. It was -- of the
7 fabrics that were ignitable with cigarettes, the
8 cigarette design did not play a role in most of
9 those fabrics. There was a small number of
10 fabrics, about a third, that was sensitive, as I
11 recall. Those numbers are not -- don't hold me
12 exactly to these numbers.

13 There was about a third of those fabrics
14 that were ignitable with cigarettes that were
15 sensitive to the cigarette design. About half of
16 those went with some of the mass burn rate type
17 scale. The other half went against it.

18 Q. Okay. Was there --

19 A. There was some other findings in there, and I
20 can't recall what they were. But that's in general
21 what the general research was.

22 Q. In other words, of the third that were
23 sensitive to cigarette design, about a --

24 A. A third of the ones that were ignitable, which
25 was a very small fraction of the fabrics that were

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1 out there.

2 Q. A third of the ones that were ignitable that
3 you looked at -- or did you look at every fabric
4 out there?

5 A. No, sir.

6 Q. Of what --

7 A. There's thousands of fabrics out there.

8 Q. Of what you looked at--a third of those that
9 were ignitable--about half of the third were
10 ignitable under circumstances when the mass burn
11 rate was the parameter that was important; is that
12 what you're saying?

13 A. No, I don't think so.

14 Q. Okay.

15 A. Somehow I've got -- we look at the general
16 population of fabrics that are on the market. Most
17 of those are not ignitable with any cigarette, all
18 right. It seems like -- I don't know, I don't
19 recall exactly -- two-thirds of the fabrics that
20 are out there or greater are not ignitable at all.
21 Again, I don't recall that number exactly, but
22 there's a large fraction that are not ignitable.

23 Of the ones that are ignitable, most of
24 those don't discriminate amongst cigarette design.
25 So any cigarette design is going to ignite them, or

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1 not relatively equally.

2 Of the ones that do discriminate--again, a
3 very small fraction of a small fraction--of the
4 ones that do discriminate, part of those go with
5 the NIST-style of ranking and part of those go
6 against the NIST-style ranking in about equal

7 portions.

8 Q. Okay. That's where I'm losing you in the
9 understanding. What do you mean go with the
10 NIST style?

11 A. Ranked according to the NIST style.

12 Q. I see. In other words, they --

13 A. What NIST would say would be a high I.P.
14 cigarette would indeed have more ignitions than
15 what they'd say would be the low I.P. cigarettes.

16 The other portion would go just the opposite
17 of that. The high I.P. cigarettes would actually
18 cause more ignitions. The low I.P. cigarettes
19 would cause more ignitions than the high I.P.
20 cigarettes.

21 Q. That's what you call reversals?

22 A. Yes, sir, that's correct.

23 Q. Was any investigation done, to your
24 recollection, on fabrics that go into automobiles?

25 A. I don't know what fabrics go into automobiles.

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1 Q. And you don't know whether or not, by chance,
2 some of the fabrics that you looked at may have
3 been the same type that go into automobiles?

4 A. I really can't say.

5 Q. You didn't make a special effort to go out and
6 get automobile seat covering fabrics?

7 A. No, sir. Not to my knowledge, we didn't.

8 Q. Is there less variability in the type of
9 substrates available than on the type of material

10 coverings for upholstered furniture and bedding,
11 according to your investigation?

12 A. Okay. Please restate the question.

13 Q. Sure. When Philip Morris U.S.A. went out to
14 look at different fabrics--as you and I have been
15 discussing--and substrates that are available in
16 the real world, is it true that you found there is
17 less variability in the number of substrates than
18 there are in the number of material coverings in
19 upholstered furniture and bedding?

20 A. I still don't understand the question. What's
21 substrates and less variability? I really don't
22 understand the question, I'm sorry.

23 Q. Fair enough. I'll try to do a better job.

24 A. Well, I was confusing before so, sorry.

25 Q. That's okay. When you went out to try to find

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1 a -- the types of materials that were out in the
2 real world on upholstered furniture and bedding,
3 you told me --

4 A. I'm sorry, we did not look at bedding
5 materials. Maybe I've confused you there. We did
6 not exclude bedding, but we didn't go looking for
7 bedding.

8 Q. Okay. You went out and got materials out
9 there, and you said there are hundreds or maybe
10 thousands of different materials out there?

11 A. Yes, sir, right. We went into upholstery

12 recovering -- excuse me, fabric shops, asked for
13 upholstery fabrics--most popular upholstery
14 fabrics--and we got fabrics that were used on
15 upholstery. We didn't ask for bedding fabrics.

16 Q. Did you look at substrates?

17 A. By substrates you mean?

18 Q. The material underneath the covering for
19 upholstered furniture.

20 A. We did not study substrates. We haven't
21 studied substrates that much. We principally
22 concentrated on the foam that was used in the
23 NIST-style testing. We used that as sort of our
24 standard. We put fabrics on top of that and try to
25 evaluate one parameter at a time.

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1 Q. Is the foam -- first of all, what is the foam
2 used in the NIST testing?

3 A. It's a polyurethane foam, as I understand.

4 Q. Is the polyurethane foam that the NIST uses
5 and that Philip Morris uses typical of what is seen
6 in the real world?

7 A. In my opinion, it's not at this point. At the
8 point NIST picked it it was, because it changes in
9 time too.

10 Q. Okay. About when did the NIST pick that
11 polyurethane foam as the test substrate to use?

12 A. I'm thinking it was sometime after 1990,
13 perhaps 1991. I don't know the exact date.

14 Q. And since that time, you think that perhaps

15 that polyurethane foam is not typical of what's
16 seen in the real world, correct?

17 A. Correct.

18 Q. What type of substrates do -- would you expect
19 to see in a real world condition today?

20 A. It's my understanding that the foam industry
21 -- first of all, we've had to go away from freon
22 blowing agents to make it the foam. That's the
23 first -- one of the changes.

24 The other change is that most foam
25 manufacturers now make fire-retardant foams. They

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1 will not allow an ignition to occur. And I think
2 that's pretty well dominating the industry at this
3 point.

4 So if we evaluated one of those at this
5 point, our test is no longer any good because we
6 don't get any ignitions at all, right. That's my
7 understanding.

8 Q. Before the -- before those changes in the foam
9 design, the industry's changes in the foam design,
10 prior to that time in '90 or '91, had there been a
11 fairly constant type of foam used out in the real
12 world for sometime?

13 A. I don't know.

14 Q. In other words, in 1980 you don't know what
15 type of foam was used typically in upholstered
16 furniture in the United States?

17 A. No, sir, I don't.

18 Q. Has the change in the manufacturer of foam
19 substrate had an effect on the research you and
20 others that predated you at Philip Morris have been
21 doing?

22 A. Well, I guess it has. We -- you know, we're
23 aware of that. So the type of research we have to
24 do we have to buy foam that's not available in the
25 marketplace to use for testing.

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1 Q. Has any of the effort by the Joint Venture or
2 CORESTA or Project Tomorrow dealt in any respect
3 with subjective characteristics of cigarettes?

4 A. Please restate that question, sorry.

5 Q. Sure. Have any of the research efforts or
6 evaluations through the CORESTA program or the
7 Joint Venture or your work in Project Tomorrow
8 dealt with any of the subjective characteristics of
9 the cigarette, such as flavoring, aesthetics?

10 MR. CRAMPTON: Objection; it's a
11 compound question.

12 Q. (By Mr. Grisham) Have any of the efforts of
13 the CORESTA project or the Joint Venture or your
14 work at Tomorrow dealt with any of the subjective
15 components of the cigarette?

16 MR. CRAMPTON: Same objection.

17 Q. (By Mr. Grisham) I don't think he's telling
18 you not to answer.

19 MR. CRAMPTON: No, I'm not. What I'm

20 thinking is if you asked the question with respect
21 to CORESTA and got an answer, then Joint Venture
22 and got an answer, and then Philip Morris, it might
23 be simpler.

24 Q. (By Mr. Grisham) Can you answer as to all
25 three without me asking you three separate

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1 questions?

2 A. I can't answer. One answer does not fit all
3 three.

4 Q. Oh, yeah. I expect that, but can you tell me
5 the three --

6 A. The Joint Venture, CORESTA have not done, to
7 my knowledge, any subjective work.

8 Q. Okay. Tomorrow has?

9 A. Tomorrow has done subjective work.

10 Q. What particular prototypes or cigarette --
11 cigarettes that have been developed through
12 Tomorrow have been sent for subjective analysis?

13 A. What do you mean by "sent for a subjective
14 analysis"?

15 Q. Have been subjected to subjective analysis.

16 A. Where I'm having problems is subjective
17 analysis. That's a broad term.

18 Q. Yeah, I know. And I made it broad because I
19 want to make sure I'm encompassing all the things
20 you might look at, like flavoring, staining, size
21 of the rod, in terms of what people like and don't

22 like. So I'm including all those different
23 things.

24 A. We've done a lot of subjective analysis.

25 Q. Is there any particular prototype or number of

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1 cigarette or style or design or experimental
2 research design that has been sent to subjective
3 analysis, or have there been many, many, many
4 different designs sent?

5 A. In this broadest description of "sent" and its
6 broadest description of "subjective analysis," we
7 looked at most everything.

8 Q. Okay. Is the subjective analysis done as a
9 part of the development department, or is it
10 subjected to that testing somewhere else in the
11 organization?

12 A. It's mostly with development.

13 Q. Who is in charge of that aspect of the
14 project?

15 A. I am. I'm in charge of the whole project.

16 Q. Have there been any prototypes or design types
17 that have had positive subjective test results?

18 A. In its broadest sense, yes.

19 Q. What design types or prototypes have had
20 positive subjective test results?

21 MR. CRAMPTON: You can answer that.

22 A. I've got --

23 MR. CRAMPTON: This question is
24 respective, Tomorrow, from 1987 to the present?

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1 A. We had -- I mean, it depends on the magnitude
2 of the change. You can get positive subjective
3 attributes from anything, all right. It also
4 depends on the style of tests being done.

5 Q. (By Mr. Grisham) Okay. Is there any
6 particular design or prototype that got or received
7 positive subjective testing results in the area of
8 aesthetics?

9 A. Yes.

10 Q. Before we go further into that type of
11 question, tell me what subjective characteristics
12 have been tested with respect to Tomorrow
13 prototypes and design types.

14 A. We look at the taste of the cigarette, the
15 appearance. And you mentioned some of them--the
16 staining, were the ashes proper or not. You don't
17 want -- when an ash is flaky, it falls off when
18 you're smoking. You also don't want a rod that's
19 stained.

20 And first and foremost, though, you want
21 something that tastes good, right. Otherwise, the
22 consumer is just simply not going to bother with
23 it.

24 Q. Are you a smoker?

25 A. Occasionally.

1 Q. Is there any prototype or design --

2 A. I'm not an expert smoker.

3 Q. Is there any design type or prototype of
4 cigarette that's come forth from the Tomorrow
5 research that resulted in positive subjective test
6 results in each of the areas you just mentioned?

7 MR. CRAMPTON: When you're talking
8 about these prototypes, are you talking about
9 something that was perceived to be reduced in
10 ignition propensity based on what they were
11 thinking at the time?

12 MR. GRISHAM: Yes, through Project
13 Tomorrow.

14 A. So it complies -- I mean, I'm -- it complies
15 with the subjectives as well as being something
16 that would be satisfying the goal of Tomorrow?

17 Q. (By Mr. Grisham) Yes.

18 A. Then we are up to today?

19 Q. Yes.

20 A. And I don't know the answer to that question
21 at this point.

22 Q. Okay. Can you explain to me why you don't
23 know?

24 A. Because some of the data that we're gathering
25 is still in process of being gathered.

1 Q. Okay. Do you recall the goals that were set
2 forth in Project Hamlet?

3 A. No, I don't.

4 Q. Through 1992, ending the last day of 1992, was
5 there any prototype or design type of cigarette
6 which came through the research efforts of Project
7 Tomorrow that met the goals of Project Tomorrow
8 while at the same time meeting the subjective
9 requirements that you've outlined for me?

10 A. No, sir, not to my knowledge.

11 Q. Were there any that came close?

12 MR. CRAMPTON: In both aspects or --

13 MR. GRISHAM: In both.

14 A. Coming close is an awful term, and I don't
15 know what that means.

16 Q. (By Mr. Grisham) Kind of like being sort of
17 pregnant, right?

18 A. We're not playing horseshoes in this.

19 Q. Okay. Well, are there any that met the goals
20 of Tomorrow and met every other aspect of the
21 subjective testing criterion except taste?

22 A. Please restate the question. I'm sorry, I
23 didn't -- did not follow to the end.

24 Q. Are there any cigarette design types or
25 prototypes that came out of the Tomorrow research

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1 that met all but one of the subjective
2 requirements?

3 A. In 1992?

4 Q. Up through 1992.

5 A. No, sir, not that I'm aware of.

6 Q. Through the CORESTA research, the Tomorrow
7 research and the Joint Venture research, were you
8 looking at parameters other than trying to ignition
9 in terms of judging the efficacy of what you were
10 trying to achieve; that is, reduction in fires from
11 mishandled smoking materials?

12 A. Through the CORESTA and Joint Venture?

13 Q. Or -- I think I said or Tomorrow, including
14 Tomorrow.

15 A. Yes.

16 Q. Please explain.

17 A. We were looking at numbers of ignitions on
18 various substrates. I don't recall us doing time
19 to ignition.

20 Q. Was the time to ignition on various substrates
21 of relevance in your testing or analysis?

22 A. That's the 1992, also, time frame?

23 Q. Up through 1992.

24 A. I don't think so.

25 Q. Was the -- was Project Tomorrow -- did Project

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1 Tomorrow also encompass an objective of developing
2 a cigarette type that would self-extinguish within
3 a certain number of minutes?

4 A. I can't recall having that objective in
5 Project Tomorrow.

6 Q. So that I understand what you're saying, your
7 focus was on number of substrates ignited and was
8 not really upon how long it took to ignite that
9 substrate?

10 A. Well, if it's ignited, it's ignited, right.

11 Q. Right. Are you familiar with any Philip
12 Morris research that had focused more on the time
13 to ignition issue in the past?

14 A. As I understand it, Hamlet was focused on
15 that.

16 Q. That's what I was trying to -- the distinction
17 I'm trying to make. Was Hamlet more of a time to
18 ignition research project, whereas yours is a
19 number of ignitions project?

20 A. Maybe I need to -- yes.

21 Q. Why the change in focus?

22 A. Well, we started off to say on Tomorrow --
23 when we first started Project Tomorrow, we were
24 focused on mass burn rate. Hamlet had been focused
25 on time to ignition as some characteristic --

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1 measurement characteristic of the cigarette.

2 Well, when we started Tomorrow, we felt we
3 didn't have to do testing because we thought we
4 knew enough that we could say if we can reduce the
5 mass burn rate, we can predict what ignitions would
6 be. Well, we can't do that. It doesn't work.
7 Mass burn rate is not a predictor of numbers of

8 ignitions or even times to ignition. So we had to
9 move beyond that, beyond the mass burn rate and
10 beyond the time to ignition.

11 Q. Is time to ignition, as a focus of study,
12 something that's important to real world analysis
13 of fire causation in that the length of burn time
14 relates to the potential for the substrate to be
15 heated to a point that would allow ignition to
16 occur of materials surrounding the substrate?

17 A. As I recall the time to ignitions that were
18 done in Hamlet, they were small numbers--ten
19 minutes or so, ten minutes or less.

20 Q. Okay. What I'm getting at is -- I guess the
21 question I'm posing is, does the time to ignition
22 as an issue of cigarette science to focus on become
23 important if one considers that a certain amount of
24 time of exposure to heat is required for a
25 substrate to allow heat to conduct to materials to

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1 ignite -- to cause ignition? You follow what I'm
2 asking?

3 A. Not exactly.

4 THE WITNESS: Could we take a short --
5 let me ask you a question off the record or
6 whatever.

7 MR. CRAMPTON: Sure.

8 (Brief recess.)

9 Q. (By Mr. Grisham) Dr. Whidby, I think the area
10 that I was inquiring in had to do with an area of

11 cigarette science and research dealing with time to
12 ignition. And what I have, what I'd like to
13 propose to you, is a concept and ask you if you
14 agree or disagree.

15 That is, the ignition of upholstered
16 material generally occurs by a cigarette through
17 the conduction of heat through the substrate, is
18 that --

19 A. From the cigarette to the substrate, yes, I'd
20 agree with that.

21 Q. Given that is true, how does the ignition of
22 the substrate covering occur?

23 A. It's some very complex physics involved here
24 and we're not sure we fully understand. As a
25 matter of fact, I'm sure we don't fully understand

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1 it. But by and large, the cigarette is on the
2 substrate and, of course, it's a dynamic thing
3 because the cigarette is burning back, right.

4 Q. Right.

5 A. And the cigarette's somewhat variable, but the
6 fabric underneath is very variable. So you've got
7 micro area -- microscopic areas of concentration of
8 metallines--salts--and microscopic changes in the
9 density of the fabric, thickness of the fabric and
10 all sorts of other things that can occur.

11 And as this cigarette burns back, at some
12 point in time that particular region of the fabric,

13 small as it might be, gets above its ignition
14 temperature. And the ignition temperature of the
15 fabric is dependent also upon how much oxygen the
16 cigarette's drawing away from that area.

17 Because what you'll find is that most -- in
18 most cases, the ignition temperature of the fabric
19 is below what the ignition temperature would be if
20 it was in contact with the cigarette.

21 So the cigarette takes the oxygen away and
22 raises the ignition temperature. But sometime
23 during this burn back, it will cause the fabric to
24 ignite.

25 Q. Are those hot spots you're referring to, the

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1 microscopic spots?

2 A. Yeah, probably hot spots that would occur.

3 And then you have to have propagation, of course,
4 away from the coal.

5 Q. Propagation of the --

6 A. -- of the smoldering process. I mean, you
7 don't get flaming ignition in these cases.

8 Q. Absolutely. We're talking about smolder?

9 A. That's right.

10 Q. What I was understanding, and perhaps this is
11 a misunderstanding, but does the substrate have to
12 be heated up to translate that heat into smolder
13 and then later into ignition?

14 MR. CRAMPTON: By "substrate," do you
15 mean foam or fabric or both?

16 MR. GRISHAM: I was referring to the
17 foam. I have envisioning in my mind a foam
18 substrate covered by fabric with a cigarette laying
19 flat.

20 MR. CRAMPTON: Sometime substrate is
21 referred to as the whole system, the fabric and
22 foam.

23 A. And that's what I was using. I apologize for
24 the confusion there, if I did confuse you. I was
25 talking about the whole unit, right, the substrate.

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1 Q. (By Mr. Grisham) Okay.

2 A. And you're talking about the foam?

3 Q. Yes.

4 A. I think, in general, the foam melts away. And
5 it forms a -- if you look under where a cigarette's
6 burned back on fabric that didn't ignite, you'll
7 see an indentation on the foam and sort of a track
8 where the cigarette was, and it sort of melted away
9 and moved back away from it.

10 Q. Once ignition occurs, the cigarette's no
11 longer in the equation, correct?

12 A. Once the ignition occurs and it's a sustained
13 ignition --

14 Q. Yes.

15 A. -- in most cases, I think you can take the
16 cigarette away and it's no longer involved.

17 Q. Okay. In circumstances whereby the cigarette

18 burns and ignition is reached, sustained ignition,
19 and a fire results, will a silhouette of the
20 cigarette typically be left on the substrate or
21 material covering the substrate?

22 A. Please, I'm sorry, once more.

23 Q. Sure. Assuming that a cigarette on a flat
24 substrate covered with material is allowed to burn
25 and because of the properties involved ignition

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1 occurs and it's a sustained ignition and it
2 propagates, will a cigarette silhouette typically
3 be left on the substrate or its covering following
4 the fire?

5 A. I don't think so.

6 Q. As a cigarette burns back along the length of
7 the rod on a substrate like we've described, as I
8 understand the physics of it--and believe me, I
9 understand them very minimally--heat convects
10 upwards into the air, correct?

11 A. Convection is into the air, yes.

12 Q. And it conducts into the substrate?

13 A. That's correct.

14 Q. And radiates off the tip of the cigarette?

15 A. That's correct.

16 Q. And if what I hear you saying, I believe, is
17 ignition occurs as the cigarette burns along the
18 axis of the rod because, in your opinion, it heats
19 the material covering the foam to a point that it
20 exceeds the ignition point of the material?

21 A. That's correct.
22 Q. Because of the salts and other microscopic
23 deviations in the material covering the foam?
24 A. That's what I believe, that's right.
25 Q. Have you ever heard of the theory that the

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1 cigarette smolder occurs as a process of conduction
2 of heat into the foam substrate until the point the
3 substrate reaches a temperature that's above the
4 ignition point of the fabric covering the
5 substrate, thus, causing ignition?
6 A. So let me be clear. Have I heard the theory
7 that the substrate goes above the ignition
8 temperature of the fabric?
9 Q. No, no. I'm trying to word this correctly and
10 it's difficult. But have you ever heard of the
11 theory that the causation of smolder and ultimate
12 ignition through cigarette lying on substrate is a
13 result of conduction of heat into the substrate and
14 that that conduction continuing until the ignition
15 temperature of the covering is reached?
16 A. I don't think so. That theory doesn't make a
17 lot of sense to me.
18 Q. Okay. Why does it not make sense?
19 A. The substrate -- it doesn't make physical
20 sense to me.
21 Q. Okay. Explain to me where the reasoning's off
22 there, because we may not be communicating.

23 A. Is the continuing transfer of heat from the
24 cigarette into the substrate until something's
25 reached. I don't understand what you meant by

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1 that.

2 Q. The ignition point of the material covering
3 the substrate is reached?

4 A. It just doesn't make sense.

5 Q. Okay. Does it not make sense because the
6 substrate you predict has a much lower or higher
7 ignition rate than the material or lower?

8 A. Like I said before, I have -- I don't -- well,
9 I think I said it before. I don't see the
10 substrates generally igniting. It's the fabric
11 above the substrate that ignites.

12 Q. Sure. That's what I'm trying to say and maybe
13 we're just not talking the same language. But
14 assuming this pen is a cigarette lying on a
15 substrate covered with material, I was presupposing
16 a theory whereby heat from the burning rod along
17 the axis conducts down into the substrate and heats
18 up the substrate in different directions.

19 And the heat from the cigarette conducting
20 into the substrate raises the temperature of the
21 substrate until it starts melting away, and the
22 temperature is high enough to ignite the covering
23 somewhere around the cigarette --

24 A. I don't subscribe to that at all.

25 Q. Okay. Now, tell me why.

1 A. Because I don't believe the substrate -- first
2 of all, the physics is not right. The -- what
3 you're telling me is that the substrate is going to
4 get hotter than the fabric that's right under the
5 cigarette. That doesn't make sense.

6 Q. Okay.

7 A. And another thing is, as I told you before,
8 the foam will melt away, right, an indentation of
9 it. So then somehow you've got to get the heat way
10 away from the cigarette, the coal of the
11 cigarette--that's the only hot part of it--and then
12 somehow get that back into the fabric, it simply
13 doesn't make sense to me.

14 Q. Fair enough. So in your opinion, the
15 ignition, under those presupposed facts, is going
16 to occur at some hot spot--and we talked about
17 those a minute ago--underneath the burning rod,
18 smoldering rod?

19 A. That's correct. That's my opinion.

20 Q. Is it the heat from the ash and coal directly
21 on the material that causes ignition, or is it the
22 heat that's being conducted through the substrate
23 that somehow causes the ignition?

24 A. Now, the substrate's the foam, right?

25 Q. Yes.

1 A. I think it's the heat from the coal.

2 Q. Going back to the assumption of the cigarette
3 lying on the flat substrate covered with material
4 and the idea that heat conducts into the substrate
5 and that foam is going to melt away, but it's also
6 going to conduct heat away from the cigarette rod,
7 are there circumstances, in your opinion, whereby
8 the heat could be conducted away from the rod and
9 contact something with a very low ignition point
10 and cause a fire to erupt elsewhere?

11 A. Do I believe that?

12 Q. Yes.

13 A. No, sir, I don't.

14 Q. Why not? Why is that not something you
15 believe is supported by science or physics?

16 A. I hope physics and science are the same.

17 Q. Sometimes.

18 A. The foam melts at a fairly low temperature,
19 and I don't know of a cellulosic fabric or any
20 other fabric that will ignite at those low melting
21 points. And as the foam melts, it cools down. It
22 cools the region around it. That's the melting --
23 in the heat of melting of the foam.

24 So it's absorbing energy, converting itself
25 to a liquid and you're not getting -- you're not

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1 getting heat that's transferred very far away from

2 the coal.

3 I don't know that we've made measurements.

4 I don't know that we haven't made measurements, but
5 we've put thermocouples so you can actually make
6 those measurements. I don't think you're going to
7 find it very hot at all at great distances from the
8 coal.

9 Q. At what temperature does the foam begin to
10 melt?

11 A. Don't know the answer to your question. I
12 can't recall.

13 Q. What is the ignition point of paper?

14 A. I don't recall exactly either.

15 Q. I'm going to hand you what's been marked as
16 Exhibit 1. It's just a copy of the Notice of
17 Deposition with the subpoena duces tecum. I'm
18 going to ask you some questions about Categories 1
19 through 5. Let me look at them for a moment
20 first. I'll hand it to Mr. Crampton first.

21 MR. MARKEY: Is that 1?

22 MR. GRISHAM: That is 1.

23 Q. (By Mr. Grisham) Take a moment to review
24 that, if you will.

25 A. (Witness complies).

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1 MR. GRISHAM: First of all, for the
2 record, I'm acknowledging that I didn't ask you
3 folks to bring any documents that you've already

4 produced to me in response to request for
5 production.

6 MR. CRAMPTON: Okay. Very good.

7 Q. (By Mr. Grisham) That having been said,
8 Dr. Whidby, are you aware of the existence of any
9 documents fitting into Categories 2 through 5?

10 MR. CRAMPTON: It might make it easier
11 for him if you say other than those that have been
12 collected by counsel for production.

13 MR. GRISHAM: Yeah. I'm assuming he
14 knows what that is. That's the problem I have with
15 that.

16 MR. CRAMPTON: Well, he knows because
17 he showed us where they are so...

18 MR. GRISHAM: Okay. Very good.

19 Q. (By Mr. Grisham) Let's take No. 2, first of
20 all. Are you aware of any documents that exist or
21 do you have them with you that fit into the
22 parameters of Category 2 that have not already been
23 produced to counsel?

24 A. No, sir, I don't.

25 Q. About how many documents were produced to

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1 counsel?

2 A. I really don't know. I don't recall. All
3 that I had.

4 Q. Okay. I'll ask you the same question with
5 respect to 3, 4, and 5. Have you produced all
6 those to your attorney?

7 A. Yes, sir, I have.

8 Q. Have you produced deposition transcripts,
9 likewise, to your attorney?

10 A. Yes, sir, I have.

11 Q. How long ago?

12 A. I don't recall.

13 Q. But in relation to production of documents in
14 this case, right?

15 A. Yes, as far as I know.

16 MR. CRAMPTON: The documents could be
17 used in other cases as well.

18 MR. GRISHAM: I got you.

19 MR. CRAMPTON: And they were collected
20 for prior cases, and they will be used in future
21 cases once they've been collected.

22 Q. (By Mr. Grisham) Are there files that you
23 have assembled in the course of your work that deal
24 with the CORESTA project?

25 A. Yes, sir.

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1 Q. What are the volume of those files in terms of
2 number of pages or feet or inches?

3 A. I don't recall.

4 Q. I'll ask you the same with respect to Project
5 Tomorrow. Can you quantify the volume of documents
6 that you --

7 A. No, sir, I can not.

8 Q. Are they all kept at the research and

9 development area?

10 A. Yes, sir, as far as I know.

11 Q. Let me see that right quick and make sure I've
12 asked all the questions.

13 A. Sure.

14 Q. With respect to the issue of the cause and
15 origin of fires related to cigarettes--which you
16 and I have discussed a little bit a moment
17 ago--does the importance of conduction of heat, hot
18 spots and all the things that we've talked about
19 that go into causing a cigarette fire become
20 unimportant if the cigarette self-extinguishes
21 itself -- that's a double -- if it
22 self-extinguishes within a minute to three minutes
23 to the point it's not in use any longer?

24 A. I can't say that.

25 Q. Does the process of smolder, whereby the

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1 cigarette burns down its axis until such time as it
2 heats the substrate in these hot spots that you've
3 described for me and ignites, occur usually after
4 three minutes?

5 A. I can't say that either.

6 Q. If the industry, the tobacco industry, could
7 create a cigarette that extinguished within three
8 minutes of being used, do you think that a majority
9 of cigarette-related fires could be prevented?

10 A. I don't know. I simply don't know.

11 Q. Do you think that should the industry be able

12 to develop a cigarette that self-extinguished
13 within three minutes of its no longer being used,
14 that that would positively impact the fire
15 statistics related to cigarettes?

16 A. In my opinion, I think it might. But I don't
17 know.

18 Q. With respect to cigarette-related fires, in
19 your experience, do you find that the cigarette is
20 usually lying in some crevice as opposed to on a
21 flat surface?

22 A. The question once more, I'm sorry?

23 Q. Sure. In the course of your research, study
24 and evaluation of cigarette fires and the chemistry
25 related to cigarette design as it relates to

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1 cigarette fires, have you found that it's more
2 likely that a cigarette fire is going to result
3 from a cigarette lying in a crevice or on a flat
4 surface?

5 A. I haven't done that research.

6 Q. From any research that you've reviewed or from
7 any other source, have you arrived at an opinion on
8 that?

9 A. I've been told by people--primarily people at
10 the CPSC--that most of the cigarettes land in
11 crevices.

12 Q. Do cigarettes lying in crevices typically
13 smolder longer before ignition than cigarettes

14 lying on a flat surface--all other things being
15 equal, draft, material type, et cetera?

16 A. I can't say that from data.

17 Q. Do you have a belief from what you've been
18 told or studied?

19 A. I really don't know. I mean, I can't say
20 whether -- I think it would depend a lot on the
21 cigarette, a lot on the, you know, design of the
22 cigarette. I think there would be a lot of
23 things. I just can't really say which one, whether
24 it would or would not.

25 Q. In your opinion, does cigarette circumference

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1 play a role in determining whether or not the
2 ignition propensity of the subject cigarette is
3 higher or lower?

4 A. Not in my opinion, no.

5 Q. Are you aware of research that suggests
6 otherwise?

7 A. Am I aware of research that suggests
8 otherwise? Yes.

9 Q. Are there any contemporaries that you're aware
10 of now that hold the opinion that a lower or
11 smaller circumference cigarette indeed reduces the
12 propensity of a cigarette to ignite a substrate?

13 MR. CRAMPTON: Objection. I just don't
14 know what you mean by "contemporary."

15 A. I was going to ask for that.

16 Q. (By Mr. Grisham) Sure. I was referring to

17 other folks and your position, maybe, at R.J.R. or
18 maybe folks in your department?

19 A. No. I really can't say. I can't answer the
20 question. I don't know of anybody that does, but
21 researchers are a diverse group of people and they
22 hold a lot of opinions.

23 Q. Yes, they are. What do you think is the
24 primary component of the many we've talked about in
25 making a cigarette less prone to ignite substrate?

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1 You just told me circumference is not one, in your
2 opinion.

3 A. I think the primary component of the issue is
4 the fabric, and that is the overriding parameter
5 that affects everything.

6 Q. If we ignore that for a moment and just focus
7 on the cigarette, what do you think is the primary
8 factor in reducing ignition propensity?

9 A. That would depend upon the fabric that you're
10 looking at.

11 Q. Some instances the paper, a denser paper, less
12 porous paper might on a certain fabric have less
13 propensity to ignite, correct? Whereas on another
14 fabric it might have no effect at all; is that your
15 belief?

16 A. It can be a wide array of responses, that's
17 correct.

18 Q. Is there any one design that you're aware of

19 that produces the highest -- the lowest propensity
20 to ignite across the widest array of materials?

21 A. Yes.

22 Q. What is that?

23 A. The one that I'm aware of is the banded paper.

24 Q. Again, we're trying to respect the proprietary
25 nature of that. I'm going to ask a few questions

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1 along those lines. Is the banded paper something
2 that's being supplied by another -- an outside
3 vendor?

4 A. I have a hard time answering that question.

5 Q. Let me go at it from another --

6 MR. CRAMPTON: Is it because of its
7 ongoing research right now?

8 THE WITNESS: Yes.

9 Q. (By Mr. Grisham) All right. Let me go at it
10 from another direction. Philip Morris U.S.A. has
11 been investigating the efficacy of banded paper for
12 a number of years in reducing the ignition
13 propensity of cigarettes, correct?

14 A. Yes, sir, that's correct.

15 Q. Is the current research, that is, of a
16 proprietary nature that you were speaking of,
17 something that involves any of the other type of
18 designs that have been considered in the past or
19 researched in the past or tested in the past?

20 A. Are you speaking about the banded paper
21 itself?

22 Q. Yes.

23 A. Tested in the past?

24 Q. Researched, considered, evaluated?

25 A. I think the paper -- the banded paper we have

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1 now is not like it was in the past, if that answers
2 your question.

3 Q. Well, it heads me in the right direction. How
4 is it different? And I ask that within these
5 parameters. And I'm wondering if there's some new
6 -- if there's some new chemical that's been
7 created or compound that's been created like
8 kryptonite or something that makes these bands
9 bullet proof, so to speak?

10 A. I'll tell you what's in the -- what's in the
11 patent literature on this. We have come up with a
12 new process for making banded papers.

13 Q. Okay. And that's a patented process, or is it
14 pending patent?

15 A. I'm not sure whether it's pending or is
16 patented, and I don't know the answer to that.

17 The details of our current process, the very
18 details that will make them proprietary, are not
19 patented, of course.

20 Q. Okay. Without going, at this moment, into
21 those particular areas that are proprietary and
22 generally talking about the concept of banded paper
23 and fire prevention, is it generally true that the

24 concept is that if one can achieve a paper with
25 bands circling the circumference of the rod at

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1 strategic areas down the rod, that somehow the
2 smolder of the cigarette will cease once it reaches
3 the band?

4 A. Yes, sir.

5 Q. That's the general principal, correct?

6 A. Yes, sir, that's the general principal.

7 Q. And that has been researched for over two
8 decades?

9 A. Yes, sir.

10 Q. Is -- assuming one could find a band that
11 would work, is the principal behind that theory
12 that if you can stop the smolder and, thus, stop
13 the conduction of heat and stop the coal from
14 transferring down the rod of the cigarette, you're
15 going to prevent the opportunity for ignition?

16 A. If the cigarette's out, it's not going to
17 cause a fire. I believe that.

18 Q. Okay. And the theory behind banded paper is,
19 should you find one that works, the cigarette will
20 go out when it reaches the band?

21 A. On the substrate, yes.

22 Q. Is that a result of less time that the hot
23 portion of the cigarette is exposed to the
24 substrate or less substrate that the cigarette is
25 exposed to?

1 A. I think it relates to the time of exposure.

2 Q. So the longer the cigarette is allowed to
3 smolder, the greater the opportunity for ignition,
4 all other things being equal?

5 A. All other things being equal, I think that's
6 also true. It may not ignite, but it might ignite.

7 Q. The opportunity for ignition is more likely?

8 A. Yeah. What scientists sometimes do is take it
9 to the absurd extreme. If it's not there at all,
10 it won't ignite, right?

11 Q. Exactly, that's one extreme. To that extent,
12 then, time to ignition is an important factor?

13 A. Time to ignition is important in that case,
14 yes.

15 Q. What is your definition of "smolder"?

16 A. Let's limit it to an upholstery fabric, if you
17 will.

18 Q. Okay.

19 A. The fabric has gone above its ignition
20 temperature, so it's ignited with -- and then it
21 continues to oxidize or smolder without any
22 additional input of heat, so then it's a sustained
23 smoldering ignition.

24 Q. It's a self --

25 A. There's no --

1 Q. I'm sorry.

2 A. There's no --

3 Q. It's a self-sustaining fire at that point?

4 A. Yes. It's self-containing smoldering
5 ignition, yes. I mean, it's not flames. Flaming
6 ignition is -- the physics of flaming ignition and
7 the physics of smoldering ignition is completely
8 different.

9 Q. I don't want to appear like a pyromaniac or
10 anything, but I do want a little bit more
11 information on that. As I understand it, then,
12 smolder is the concept of ignition having been
13 reached and it being self-sustained?

14 A. Right.

15 Q. And that doesn't mean flames or anything like
16 that?

17 A. Right, just -- right.

18 Q. Assuming that a cigarette, a given cigarette,
19 is lying flat on substrate or, for that matter, in
20 a crevice, and assuming further that smolder is
21 achieved, how does that process proceed to flame?

22 A. It's a good question. It's a lot of physics
23 involved. I don't know the answer to that.

24 Q. Assuming that you have a cigarette lying on a
25 flat substrate and it's burning down the axis of

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1 its rod and it's conducting heat into the
2 substrate, including the covering, can the heat

3 from the tip of the cigarette, as it progresses
4 down the axis, conduct into the covering over the
5 foam of a particular substrate and translate over
6 to another article with a very low ignition point
7 and ignite the other article?

8 A. We discussed that earlier. I simply don't --
9 I'm sorry.

10 Q. Well, we discussed something a little bit
11 different then.

12 A. Okay. I'm sorry.

13 Q. I probably wasn't clear. I was talking -- I
14 thought you were talking earlier about conduction
15 down into the substrate and away from the
16 cigarette. And you described very well how it
17 melts, and you don't think it goes very far.

18 This time I'm talking about the covering.
19 And I'm thinking -- in my mind I'm picturing a
20 velvet covering used on the mock-ups by NIST, for
21 instance. Can the cigarette heat up the covering
22 over the substrate and conduct heat outward to low
23 ignition?

24 A. I don't think so. The substrates, such as --
25 or coverings or fabrics, are very poor conductors

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1 of heat, extreme poor conductors of heat. I mean,
2 you can -- just a heating pad, you know, and hold a
3 hot iron is the example of that. You know, very,
4 very hot, you don't burn yourself because the thin

5 coating is no heat transferred to your hand. So I
6 don't believe that happens.

7 Q. Assuming that the cigarette's lying on the
8 flat surface substrate cover with, say, a velvet
9 material, how far out do you feel like the heat
10 would conduct to the point a human could feel heat
11 around the cigarette in that sort of material?

12 A. I don't know exactly. But on a -- take a
13 cigarette, for example, it's made out of cellulose
14 materials, whatever. I do know that very -- within
15 a couple of millimeters behind the coal, you're
16 back almost to room temperature.

17 So there's virtually no transfer of heat
18 back into the cigarette, which would be the same
19 thing with a cigarette laying on the fabric. It's
20 going to be a very small number of millimeters that
21 you're going to have it back to room temperature.

22 Q. Probably the size of a quarter?

23 A. Oh, much, much smaller than that. I mean, I
24 can go to the laboratory and make that measurement,
25 but I haven't.

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1 Q. That's okay.

2 A. Physics 101.

3 (Whidby Exhibit No. 3 was
4 marked for identification.)

5 Q. (By Mr. Grisham) Dr. Whidby, I want to hand
6 you what's been marked Exhibit 3, and I'll purport
7 to you I believe it's your C.V. And I would like

8 to ask you some questions about it after you've had
9 a chance to review it.

10 A. Okay.

11 Q. Is that, in fact, your C.V.?

12 A. It's -- yes, it's one. It's just a touch out
13 of date, but certainly --

14 Q. That's what I was going to ask you, about when
15 that C.V. was created or when it was current?

16 A. It was probably current last year.

17 Q. What substantial changes have been made in --

18 A. My oldest daughter got married.

19 Q. What's that?

20 A. My oldest daughter got married.

21 Q. Okay. Is there anything else?

22 MR. CRAMPTON: Is there a change in the
23 name?

24 Q. (By Mr. Grisham) Is there anything else of
25 substance that's changed?

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1 A. No, sir, not that I know of. It's Rachelle
2 Leigh Banton.

3 (Whidby Exhibit No. 4 was
4 marked for identification.)

5 Q. (By Mr. Grisham) Doctor, I want to hand you
6 what's been marked as Exhibit 4, and ask you if you
7 can identify that document?

8 MR. CRAMPTON: Can you tell me what
9 these Bates numbers are on there? I recognize the

10 document. I just don't recognize it with those
11 numbers on it.

12 MR. GRISHAM: I don't know. I don't
13 believe they are our numbers.

14 MR. CRAMPTON: Okay.

15 MR. GRISHAM: The answer is I don't
16 know.

17 MR. CRAMPTON: These were not produced
18 by Philip Morris?

19 MR. GRISHAM: No.

20 (Whidby Exhibit Nos. 5 - 7 were
21 marked for identification.)

22 (Brief recess.)

23 Q. (By Mr. Grisham) Dr. Whidby, I have marked
24 for identification purposes Plaintiff's Exhibits 4,
25 5, and 6 to the Whidby deposition. Have you had an

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1 opportunity to look over Exhibits 4, 5, and 6?

2 A. Yes, sir, I have.

3 Q. Do you recognize Exhibits 4, 5, and 6?

4 A. Yes, sir, I do.

5 Q. What do those documents -- what are those
6 documents?

7 A. They're affidavits.

8 Q. Are they affidavits containing your testimony?

9 A. Yes, sir.

10 Q. Are they each and every one signed by you?

11 A. Yes, sir.

12 Q. Do they appear to be accurate replications of

13 the original documents?

14 A. As far as I can tell with my reading, yes,

15 sir.

16 Q. Okay. I don't have the originals. All I have
17 are copies. But I want to make sure that from your
18 reading they appear to be accurate depictions --

19 A. I did not find anything in there that was
20 outside of that.

21 Q. And they are all notarized and attested to,
22 correct?

23 A. Yes, sir.

24 Q. What -- do the dates which appear on the
25 affidavits necessarily tell us at or near the day

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1 on which you signed them?

2 A. The date you're speaking to is back where I
3 signed here?

4 Q. Yes, sir.

5 A. Yes, sir, that's the -- that is the day I
6 signed them.

7 Q. Okay. What was the purpose that these
8 affidavits were made for?

9 MR. CRAMPTON: Objection to the extent
10 there might be anything -- privileged
11 communications with counsel as to that. But if --
12 I mean, if you're talking about for the purposes of
13 the case, that's not privileged I don't think.

14 MR. GRISHAM: Actually that's what I

15 was asking.

16 A. They were for the case involving --

17 Q. (By Mr. Grisham) They were for the purposes
18 of the Kearney case?

19 A. Yes, sir.

20 Q. And do each of the affidavits identified as 4,
21 5, and 6 contain opinions that you gave in the
22 course of that case?

23 A. Yes, sir.

24 Q. Having had an opportunity to review these
25 affidavits today and some time having passed since

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1 you made the affidavits, is the information
2 contained in Exhibits 4, 5, and 6 still true and
3 correct and accurate?

4 A. Without having reviewed them in great detail,
5 as far as I can tell, most of the opinions I have
6 in there, yes, they are still accurate.

7 Q. Is there anything that stands out in your mind
8 as being inaccurate? An example may be, gee, since
9 I've made that affidavit, I've done more work and
10 I've changed my mind about a topic or I wasn't
11 exactly right about a topic?

12 A. I'll have to review them topic by topic in
13 order to say that, which I did not do in any great
14 detail. And I apologize for that.

15 Q. That's okay. That's all right.

16 A. If you have something, you know, particular,
17 please ask.

18 Q. Okay. In some of the testimony that you gave
19 in the affidavits, you describe crevice testing of
20 cigarettes. Is the crevice testing that you were
21 referring to testing that was done a part of -- as
22 a part of the CORESTA project or the Joint Venture
23 or Tomorrow or some other project?

24 A. I can't recall doing CORESTA testing on
25 crevice nor Joint Venture testing on crevice at

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1 that point. Most likely it was Tomorrow testing.

2 Q. What sort of mock-up has been used for the
3 crevice testing that you performed?

4 A. Most of the mock-ups that I'm aware of were
5 with 90-degree crevices.

6 Q. With the standard NIST materials constituting
7 the substrate and substrate covering?

8 A. As I recall.

9 Q. One of the -- I'll represent to you -- and if
10 we need to look at it too. One of the statements
11 that you make in Exhibit 4 is that during the
12 course of some testing of substrates, low or small
13 circumference, low packing density or low permeable
14 paper cigarettes tended to show a reduction in the
15 number of ignitions in laboratory testing. Was
16 that a correct statement?

17 A. Yes, I think so.

18 Q. Paragraph 7, sentence 1?

19 A. All of these were absolutely correct when we

20 wrote them, of course.

21 Q. I understand that. But since there's been --
22 there's been some time that passed, I want you to
23 make sure that nothing's changed since the time you
24 made the statement that might alter your opinion.

25 A. The paragraph 7 you're speaking of talks about

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1 the reversal phenomenon, yes.

2 Q. That's what I was going to get into.

3 A. Yes.

4 Q. Generally the statement you made in paragraph
5 7 of Exhibit 4 is that in testing there was a trend
6 whereby lower circumference, higher density, less
7 porous cigarettes tended to not ignite the
8 substrate, correct?

9 A. Yeah. The small circumference, low density
10 rather than high density --

11 Q. Okay. I'm sorry.

12 A. -- and low permeability, those in combination
13 in some substrates are less likely to ignite the
14 substrate. In other substrates, they're more
15 likely to ignite.

16 Q. That's what I was going to get into. You also
17 note in that document the concept of reversals?

18 A. Right. In that paragraph, yeah.

19 Q. And I understood that, from my reading, to
20 mean that a reversal is you see an opposite to the
21 trend. Is that what -- is that what the term
22 means?

23 A. Perhaps. It means -- to me it means an
24 opposite to what might be predicted.
25 Q. Okay, all right. And in the example I just

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1 gave, or actually the example you gave in your
2 testimony in Exhibit 4 is, you predicted perhaps
3 that the density, circumference and permeability
4 that was manipulated in that test would show a
5 lower incidence of ignition, and which it did. And
6 in some instances, though, it showed a higher
7 ignition. And that reversed what you would have
8 expected or predicted to see?

9 A. Well, if you use the knowledge that came out
10 of the N.B.S. and this to make this prediction, you
11 would have predicted these cigarettes to be high
12 I.P.; however, they turned out to be lower I.P. in
13 another case.

14 Q. Was the research that you conducted, whether
15 it was the Tomorrow, CORESTA, the Joint Venture,
16 otherwise, aimed at disproving any of the findings
17 of the NIST?

18 A. That was not our aim.

19 Q. Was the aim to replicate what the NIST was
20 doing to find your own -- to arrive at your own
21 conclusions?

22 A. Our aim was to develop a test that had the
23 most relevance we could think of, we could design
24 into it.

25 Q. Going into the project, did you feel like that

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1 there was room to design something other than the
2 perfect cigarette?

3 A. I'm not sure what you mean by that.

4 Q. As I understood the goal for Project Tomorrow,
5 it was to reduce -- design something that might
6 reduce fires caused from carelessly handled smoking
7 materials.

8 Did you understand or did you believe that
9 in undertaking that admirable goal that something
10 less than the perfect cigarette that might achieve
11 that goal was acceptable, or did you feel like your
12 job or your mission was to make the perfect
13 cigarette to accomplish that goal?

14 A. No, I don't believe in the perfect concept. I
15 think we have to make progress as we can make
16 progress.

17 Q. Okay. Can I see the exhibit again?

18 A. Sure.

19 Q. What do you believe to be, if there are any,
20 drawbacks to the conclusions reached by the folks
21 with the NIST and their testing and conclusions
22 they reached and reported to the Congress of the
23 United States of America?

24 A. I guess there are numerous. Are you speaking
25 about the test method itself?

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1 Q. I was thinking of test methodology and
2 conclusions with regard to the entire project.

3 A. Speaking of the test methodology for ignition,
4 to me, the major issue with that -- well, the major
5 issues with what NIST did were they did not
6 consider anything other than cotton duck fabrics.

7 Cotton duck fabrics are not upholstery
8 fabrics. They're not used in the upholstery fabric
9 industry. They're used for backpacks and tents,
10 and when the -- the Army was using it for truck
11 coverings, and the Army's not even using them
12 anymore. So, to me, they didn't have a
13 representative fabric. And I think that was the
14 biggest, perhaps, issue with it.

15 The other issue was they didn't consider
16 environmental factors in their test. I think some
17 environmental factors have to be considered;
18 because in a real-world situation, you do have air
19 flow. You have substantial air flow. And that can
20 cause a -- one cigarette designed to perform one
21 way with low air flow and another cigarette
22 designed to form another way with another air
23 flow.

24 I think in designing your cigarette, you
25 have to have -- you have to have the best cigarette

1 design that performed the best way in the widest
2 array of possibilities.

3 Q. Okay. Is there a current commercial cigarette
4 manufactured by Philip Morris that performs better
5 in the area of fire causation than any other Philip
6 Morris brand?

7 A. I don't know. I don't think so.

8 Q. Is there any commercial brand of cigarette
9 marketed in the United States by a domestic
10 cigarette manufacturer that you believe performs in
11 the area of reduced ignition propensity and fire
12 causation than the other commercial brands of
13 cigarettes manufactured and sold in the United
14 States?

15 MR. CRAMPTON: Real world.

16 Q. (By Mr. Grisham) Real world, sure.

17 A. No, sir, I don't think so.

18 Q. Do you think that all of the commercial
19 cigarettes that are on the market in the United
20 States today, in terms of fire causation and
21 ignition propensity, are just about the same?

22 A. Yes, sir, I believe that. And the original
23 document -- the original law or study came out at
24 N.B.S. at the time concluded that. There's
25 virtually no difference in the design that's on the

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1 marketplace. I think that's true.

2 Q. But if I understand what you're saying, you do
3 disagree with the National Bureau of Standards in

4 their findings that a cigarette that is less likely
5 to ignite substrate is technologically feasible to
6 manufacture?

7 MR. CRAMPTON: I think you need to
8 define the substrate, unless you're talking about
9 all substrates. I don't know.

10 Q. (By Mr. Grisham) The substrate that the
11 National Bureau was testing.

12 MR. CRAMPTON: NIST?

13 A. Okay. We have N.B.S., National Bureau of
14 Standards, which changed their name from the first
15 study they did to the second study they did when it
16 was NIST.

17 Q. (By Mr. Grisham) Correct.

18 A. The conclusions that were drawn between those
19 were somewhat different.

20 Q. And they were about three years apart or
21 longer, weren't they?

22 A. Something of that nature, yeah. A little more
23 than that, but...

24 Q. Do you recall one of the findings being that a
25 cigarette was technically feasible that would

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1 reduce ignition propensity?

2 A. They concluded it was technically feasible to
3 develop a cigarette. I think it's technically
4 feasible to do that. I think -- you know, I'm a
5 researcher and I believe, by golly, given enough

6 time and effort we can do it.

7 Q. You just don't think the industry is there
8 yet?

9 A. No, sir, I don't -- well, I don't know about
10 the industry. We're not there yet.

11 Q. Okay. When in the course of your research
12 concerning ignition propensity did you discover the
13 concept of reversals?

14 A. First time I was aware of reversals was in --
15 as part of the so-called CORESTA 2 study in which
16 we were evaluating cigarettes "G" and "J." And
17 "G" -- I may get this wrong, but for the sake of
18 this, let's say "G" was more like a commercial
19 cigarette and "J" was more like a noncommercial
20 cigarette like the NIST design. And we started
21 evaluating those in our laboratory and we found
22 that the so-called low I.P. cigarette was giving us
23 more ignitions than the so-called high I.P.
24 cigarette.

25 I talked to the people in the laboratory and

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1 they said -- I said, you know, somehow we got these
2 things mixed up. Something's wrong here. This is
3 not right. It turned out that all of the
4 laboratories involved in that test got the same
5 result.

6 Q. That is, a mixed result of effects?

7 A. It wasn't mixed. It was reversed.

8 Q. Did you as a scientist investigate how in the

9 world that happened?

10 A. First thing I thought was it was mixed up. We
11 had miscoded. And we made some measurements on the
12 cigarettes, which you can easily do with that kind
13 of density difference, and found out they weren't
14 mixed up.

15 Q. Did you as a researcher arrive at a conclusion
16 for why these reversals occurred?

17 A. Had no idea why it occurred at the time.

18 Q. Today do you have an idea of why they
19 occurred?

20 A. I've got a theory.

21 Q. What's your theory?

22 A. I'm not sure how many people support the
23 theory, but the theory is that it deals with the
24 oxygen deprivation around the coal and how much
25 oxygen a particular style cigarette's taking away

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1 and increasing ignition temperature of the fabric.
2 Whereas another cigarette might--and it's very
3 fabric dependent--might not take so much oxygen
4 away from the coal and allow the fabric to ignite.

5 Q. You think it's an environmental factor
6 surrounding the cigarette and the fabric versus the
7 components of the cigarette or the components of
8 the fabric?

9 A. I think it's the combination of cigarette and
10 fabric properties. And as we said before, most

11 cigarettes either will or will not ignite the
12 fabric. Most fabrics are not ignitable. Those
13 that are ignitable, every design will do it. So
14 it's a small number that allows this
15 discrimination.

16 Q. Your theory is, then, it's the amount of
17 oxygen that's available to the coal?

18 A. Well, the same amount of oxygen because of the
19 environmental -- I mean, 21 percent oxygen is
20 available around the world, right, pretty much.
21 But it's the amount of oxygen that the coals take
22 consuming, the cigarette's consuming, one's
23 consuming more than another perhaps.

24 Q. Okay. What would alter the consumption of
25 oxygen, the available oxygen to the coal?

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1 A. Again, it's an interaction, perhaps, with a
2 fabric and the environment the fabric's in. It's a
3 very -- some very complex physics. I don't
4 understand it all.

5 Q. For instance --

6 A. That's an untried -- well, it's not untried
7 completely, but it's an untested theory that I
8 have.

9 Q. In simplistic terms, does a cigarette lying in
10 a crevice, in effect, does it have less oxygen
11 available to it?

12 A. I'm not sure. This is much more microscopic
13 than, say, a crevice or a non-crevice situation, so

14 I don't know the answer to that question.

15 Q. But if a cigarette will self-extinguish in
16 terms of fire causation, that doesn't even matter,
17 correct?

18 A. If it's out, it's out, right.

19 Q. Are there other theories that you have heard
20 espoused by other scientists as to why the
21 reversals may have occurred?

22 A. Yes.

23 Q. What are some of the other theories, or all
24 the theories that you can recall?

25 A. Only one I recall dealt with the linear burn

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1 rate of the cigarette and the linear burn rate of
2 the fabric and some matching of that.

3 That phenomenon may be true. I don't know
4 the answer to the question whether it was which...

5 Q. And as I understand it, someone may have
6 theorized that if the ignition and burn rate of the
7 fabric somehow matches that of the cigarette, that
8 could cause the ignition of substrate?

9 A. Right. Whereas if it's burning faster than
10 that, it might not ignite, even though it had a
11 higher so-called I.P.

12 Q. Page 5 of Exhibit No. 4, I'll be happy to hand
13 this to you, if you need to see it. You talk in
14 paragraph 8 about -- following your discussion of
15 the phenomenon of reversal, you say that testing by

16 the CORESTA task force and the cigarette ignition
17 propensity Joint Venture and confirmed by
18 independent researchers has shown that certain
19 design changes that have an improved performance in
20 one test using substrate will have more ignitions
21 in another, and you go on.

22 What was the independent research that
23 confirmed this finding?

24 MR. CRAMPTON: Did you purport to quote
25 from that as you were reading that --

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1 MR. GRISHAM: Did I purport to quote?
2 MR. CRAMPTON: -- because that didn't
3 sound like a quote from that document to me.
4 Because you said "using substrate" which is a
5 peculiar term to you that I've never heard before,
6 and I would be surprised if it were in Dr. Whidby's
7 document.

8 MR. GRISHAM: Using substrate?

9 MR. CRAMPTON: Using a substrate, the
10 substrate?

11 MR. GRISHAM: Using one substrate?

12 MR. CRAMPTON: Whatever it says there.
13 It sounded to me like you were quoting as you read
14 along, and then I heard some terms that I don't
15 think are in that document. And it made me think
16 that maybe you were using your own words.

17 MR. GRISHAM: Let me go back and read
18 it because you caught me.

19 Q. (By Mr. Grisham) Quote, testing by the
20 CORESTA task force and the cigarette ignition
21 propensity Joint Venture and confirmed by
22 independent researchers have shown that certain
23 design changes that have an improved performance in
24 one test using one substrate will have more
25 ignitions on another test using either another

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1 substrate or tested under different environmental
2 conditions, closed quote.

3 What other independent researchers confirmed
4 those findings?

5 A. Let me see the -- now I'm really confused.
6 Independent researchers that I think are referred
7 here -- referred to here is Factory Mutual --
8 Factory Mutual Group.

9 Q. I'm sorry?

10 A. Factory Mutual.

11 Q. Who are they?

12 A. It's a laboratory in Boston, Connecticut.

13 Q. Who were they doing independent research on
14 behalf of?

15 A. The Joint Venture.

16 Q. Who funded the independent research?

17 A. The tobacco industry.

18 Q. Through what mechanism, the Tobacco Institute
19 or the CORESTA?

20 A. We funded -- the tobacco industry funded the

21 Joint Venture directly.

22 Q. Okay. What research did that group do to
23 confirm the findings that you state in your
24 affidavit?

25 A. They repeated the results that American

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1 Tobacco had gotten on testing commercial fabrics.

2 Q. And the opinions you were giving in Exhibit 4
3 in the form of an affidavit were opinions that were
4 based in part upon a research you had conducted at
5 Philip Morris, but also in part upon a research
6 that other tobacco companies had conducted and
7 reported as a part of the CORESTA or Joint Venture
8 projects, correct?

9 A. I'm sorry to make you repeat that, but...

10 Q. That's okay. The opinions that you state in
11 Exhibit 4, such as the one you just mentioned in
12 paragraph 8, I assume were opinions that you --
13 that you arrived at and conclusions that you made
14 based upon research that you conducted at Philip
15 Morris, but also research that came about through
16 CORESTA and the task force?

17 A. Yes, sir.

18 Q. And that research may have come in whole or in
19 part from other tobacco companies participating in
20 the projects?

21 A. Participating in the Joint Venture?

22 Q. Yes.

23 A. Yes.

24 Q. Can I see that exhibit?

25 A. (Witness complies).

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1 Q. Thank you. Do you know why the NIST chose
2 cotton duck as a material to use in testing that
3 was mandated by the cigarette -- Fire-Safe
4 Cigarette Act of 1990?

5 A. No.

6 Q. On page 8, paragraph 18 of Exhibit 4 there's a
7 table of -- containing the names of cigarette
8 brands along with the packing density,
9 circumference and permeability is measured in
10 CORESTA units of the particular cigarettes, and
11 there's some discussion in your affidavit about the
12 findings. Where did the information for the table
13 come from?

14 A. Which information?

15 Q. Packing density, circumference and
16 permeability.

17 A. We measured those.

18 Q. "We" being?

19 A. Philip Morris.

20 Q. Under what circumstances were these
21 measurements made, part of the Tomorrow Program?

22 A. I don't think so.

23 Q. Okay. Under what circumstances were they
24 made?

25 A. We routinely measure parameters of our

1 competitors' products.

2 Q. Through the use of these measurements, either
3 on your competitors' brands or on your own brands,
4 can you make predictions about ignition propensity?

5 A. No, sir, I don't believe so.

6 Q. Has Philip Morris developed computer modeling
7 -- let me rephrase that. Has computer modeling of
8 ignition propensity been developed by anyone to the
9 extent that it could be used as a predictor of
10 ignition propensity in the real world, in your
11 opinion?

12 A. No, sir.

13 Q. Why not?

14 A. I don't think -- I don't think the real world
15 is known well enough in order to have that model.

16 Q. Okay. And as I understand, what I believe
17 you're saying is, that there is so many different
18 environmental factors involved in the world that
19 you can't predict every place a cigarette's going
20 to fall and under what environmental circumstances
21 it's going to lie in, correct?

22 A. Be very difficult to do that.

23 Q. Are we talking about the same thing? In other
24 words, I understand you to say there's so many
25 different materials out there a cigarette might lie

1 on in the world that you can't replicate all those
2 in a laboratory, correct?

3 A. I think that's true, yes.

4 Q. Being a scientist, though, you'll agree that
5 there are certain physical properties and physical
6 rules and laws of nature that don't vary, correct?

7 A. Yes.

8 Q. Do you, as a researcher at Philip Morris, rely
9 upon the use of computer software and modeling to
10 assist you in your research?

11 A. Yes.

12 Q. How can it assist you? What does it provide
13 for you?

14 A. Guidance.

15 Q. How so?

16 A. General -- gives you direction in which to
17 go. Rather than marching down all paths at once,
18 you can march down, hopefully, the most preferred
19 path.

20 Q. If I were fortunate enough to have the models
21 available to me that you have in the research
22 laboratory available and I wanted to model a
23 circumstance whereby a cigarette smoldered in a
24 car--like in our case--and wanted to see if it
25 could, in fact, ignite the contents of an

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1 automobile, is that something that is available

2 that you could do in your laboratory or on your
3 your computer?

4 A. No, sir, I don't think so.

5 Q. Why not?

6 A. I don't know what -- I don't know any of the
7 parameters in a car.

8 Q. I'm assuming that you were provided that
9 information. Like here's the type substrate,
10 here's the type covering and here's the
11 temperature, and a rough estimation of the humidity
12 and draft and whatever parameters you wanted to
13 estimate, would you be able to model that
14 environment to predict an outcome?

15 A. From a particular cigarette design?

16 Q. Yes.

17 A. No, I don't think so. I think I'd have to
18 have some data, some real data on real environments
19 within a car, on real fabrics that were contained
20 within the car in order to develop a model that
21 might allow me to predict future configurations
22 within a car. I don't have any of that data.

23 Q. Assuming I were able to give you --

24 A. I'm sorry, these models are not based on first
25 principals. They're based on real data that's

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1 collected on real situations, or real laboratory
2 situations, and then use those to predict other
3 areas.

4 Q. Okay. If you and I were to collaborate on

5 trying to create a model that would replicate what
6 might happen in a car with a cigarette lying on the
7 seat and you are to tell me, here's a list of
8 things I'm going to have to have to try to model
9 that, what would that list be?

10 A. I think I'd want to sit down for a while and
11 think about what that list would be, rather than in
12 two seconds or come off the top of my head.

13 Q. I understand.

14 A. But obviously -- I mean, knowing what I know
15 about upholstery fabrics and using that knowledge
16 to talk about some other area, I'd want to know
17 what the substrate is; I'd want to know what the
18 air flow is; what the temperature is; the ignition
19 properties of the substrate -- I said air flow
20 already.

21 There's a whole host of things I'd like to
22 know and like to investigate some reason -- region
23 around those parameters to start establishing some
24 fundamental physics about these materials.

25 I mean, you could tell me some things that

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1 -- well, we'd just have to sit down and work it
2 out. But I don't think it's something you and I
3 can do right here.

4 Q. Okay. The point being, do you have a -- do
5 you have models available to you to do something
6 like that, if you could get the information you

7 needed?

8 A. No, not -- no. Do I have them available to
9 me, no.

10 Q. I don't mean right here. I'm talking about at
11 your laboratory?

12 A. No. They'd have to be developed.

13 Q. In other words, you'd have to create the model
14 to test what I was talking about?

15 A. Yes, yes. Create the model to test the
16 physics to test the hypotheses that we would come
17 up with.

18 Q. Okay. Would -- in order to try to do that,
19 would you be able to rely upon laboratory findings
20 in other settings to try to draw upon to create
21 that model?

22 A. Like I said earlier, you know, using my
23 knowledge about upholstery fabrics, we'll start
24 from there, right.

25 Q. Okay. That's the first thing that comes to

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1 mind to me. You might want to find out what the
2 foam was in the car and see if you had ever tested
3 that foam before. Is that an accurate example of
4 one --

5 A. Whether or not I had tested it before might
6 have some relevance. I'm not sure that it would or
7 would not. What's the density of the foam? Foam
8 properties, you know, we've looked at the physics
9 of the foam. What's the properties of that foam?

10 Q. And I was assuming if you tested it before,
11 you might have some laboratory data about the
12 properties?

13 A. The problem, though, is that we -- this is a
14 -- you can't test one thing to make a prediction
15 about a full mock-up. You have to have it
16 altogether.

17 Q. In Exhibit 5, your affidavit also in the
18 Kearney case, you mentioned that you're employed as
19 a technology fellow for the Philip Morris,
20 Incorporated, Research Center. What is a
21 technology fellow?

22 A. We -- within R&D we have two ladders -- two
23 ladders, management ladder and technical ladder.
24 The fellow is -- that's the top of the ladder.

25 Q. On the technology side?

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1 A. Yes.

2 Q. Do you recall giving your deposition in the
3 Kearney case?

4 A. Yes.

5 MR. CRAMPTON: Wait a minute,
6 deposition?

7 A. I'm sorry, deposition?

8 Q. (By Mr. Grisham) Yes.

9 A. I did not give a deposition, I'm sorry.

10 Q. Okay, fair enough. Maybe you just didn't know
11 about it, Bill.

12 A. No, I don't recall. The witness is getting
13 tired.

14 Q. Would you like to take a break?

15 A. No, that's okay. We'll continue.

16 Q. You mention also in Exhibit No. 6, also an
17 affidavit submitted in the Kearney case, that you
18 and Dr. Hirschler had attended an A.S.T.M. meeting
19 in June of 1995 in which a study was discussed
20 concerning a topic in the Journal of Fire Sciences,
21 the effects of upholstery of fabric properties on
22 ignitability by smoldering cigarettes; do you
23 recall that?

24 A. Yes, sir.

25 Q. Did Dr. Hirschler speak at that meeting, or

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1 were you both attending as members of the audience?

2 A. June '95, as I recall, we both spoke at that
3 meeting.

4 Q. Did you and he both spoke on the issues of
5 fabric ignition and cigarettes?

6 A. I don't recall what Dr. Hirschler said. I
7 think he was a chair of the group.

8 Q. Who is Dr. Hirschler?

9 A. He is a member of a consulting laboratory in
10 some location in California. I don't know the
11 exact location.

12 Q. Is he a member of the Editorial Advisory Board
13 of the Journal of Fire Sciences, to your knowledge?

14 A. I believe he is.

15 Q. Did -- is there a particular formula that
16 Dr. Hirschler developed that deals with prediction
17 of ignitions called the Hirschler Formula?

18 A. I believe that's what it says in the
19 affidavit, yes.

20 Q. How are you familiar with that formula?

21 A. As I recall I saw it in Dr. Hirschler's
22 affidavit.

23 Q. Before you first saw it in Dr. Hirschler's
24 affidavit, had you been familiar with the formula?

25 A. No, sir.

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1 Q. Do you know Dr. Krasny?

2 A. Yes, sir.

3 Q. How do you know him?

4 A. I'm sorry, it's Mr. Krasny.

5 Q. Mr. Krasny. I'm sorry.

6 A. Through interactions with NIST.

7 Q. Do you know Dick Gann?

8 A. Yes, sir, I do.

9 Q. How do you know Dick Gann?

10 A. Dr. Gann.

11 Q. Dr. Gann. I'm batting a thousand here, aren't
12 I?

13 A. Through interactions at NIST.

14 Q. Have you served on any committees at the NIST
15 with regard to these studies?

16 A. Yes. Well, it was with the Tobacco Advisory

17 -- or Technical Advisory Group.

18 Q. Did you serve as a member of the Technical
19 Advisory Group on behalf of Philip Morris?

20 A. Yes, I did.

21 Q. I understand --

22 A. I'm sorry, as part of the Tobacco Institute.

23 Q. Have you ever held a position with the Tobacco
24 Institute?

25 A. No, sir.

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1 Q. As a part of the advisory group, did you serve
2 by providing research and input on ideas, and
3 things of that nature, on the issue of reduced
4 ignition propensity, feasibility in cigarettes?

5 A. Yes.

6 Q. Did the -- did you participate on behalf of
7 the industry through invitation, or was that how
8 the committee was -- the advisory committee was
9 formulated, there would be so many members of
10 industry and so many from consumer --

11 A. As I recall, it was formulated that way.

12 Q. Up and between 1987 and 1982 (sic), did Philip
13 Morris U.S.A. conduct -- continue to conduct a
14 mock-up burn test as part of the project
15 investigating reduced ignition propensity
16 cigarettes?

17 A. What were those dates again?

18 Q. '87, around the time when Tomorrow began,
19 through '92.

20 A. We did mock-up testing with CORESTA and with
21 the Joint Venture and with the T.A.G.
22 Q. No in-house mock-up testing was done?
23 A. Oh, it was done in-house, but primary effort
24 was with trying to push forward the development of
25 test methods with those three groups.

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1 Q. With respect to Exhibit 6, your affidavit, I
2 want you to look at it and review in more detail
3 paragraph 15.

4 A. Okay.

5 Q. Dr. Whidby, with respect to paragraph 15, I'm
6 certainly going to attempt to avoid rehashing
7 testimony we've already gone through concerning
8 time to ignition as a measure of ignition
9 propensity.

10 Regardless, in paragraph 15 I believe you
11 opined that even though Philip Morris U.S.A.
12 conducted tests through the 1980's with -- on
13 ignition propensity by studying the time to
14 ignition, that those tests were not and were not
15 intended to be accurate predictors of ignition
16 propensity. Is that what you're saying in your
17 affidavit?

18 A. The intent of those tests -- what I'm saying
19 is they were not accurate predictors of the real
20 world upholstery furniture. I don't know what the
21 intent was.

22 Q. Okay. Why are they not real -- why were the
23 tests that Philip Morris ran in the 1980's not real
24 world predictors of ignition propensity?
25 A. I don't know why the physics between the two

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1 doesn't hold.

2 Q. I'm sorry?

3 A. I don't know exactly why the physics between
4 the two tests didn't hold. I mean, the real world
5 situation has a variety of fabrics. This test here
6 also relied upon a small number of fabrics.

7 Q. Okay. I want to hand you what's been marked
8 as Exhibit No. 7 and ask you if you can identify
9 this document?

10 A. Yes.

11 Q. What is that document?

12 A. It's a memorandum.

13 Q. Have you ever seen it before today?

14 A. I believe I have.

15 Q. Under what circumstances?

16 A. I was a recipient of the memo.

17 Q. About when did you receive the memo?

18 A. I don't recall exactly.

19 Q. Is that -- was that memo received by you
20 during the course of your employment with Philip
21 Morris U.S.A.?

22 A. Yes, sir.

23 Q. And was -- is it customary for you to be the
24 recipient or c.c.'d, if you will, on memos of that

25 type?

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1 A. Yes, sir, it is.

2 Q. And that particular one you received as a part
3 of your work on ignition propensity studies,
4 correct?

5 A. Yes, sir.

6 Q. Who authored the memo?

7 A. Dr. Bill Dwyer is what it says here.

8 Q. And what's the date of the memo?

9 A. The memo was dated August 10, 1992.

10 Q. What position did Dr. -- is it Dr. Dwyer?

11 A. Yes, sir.

12 Q. What position did Dr. Dwyer hold at that time?

13 A. As I recall, perhaps imperfectly, I think he
14 was a project leader.

15 Q. And who was he directing the memo to?

16 A. To me.

17 Q. Can I see it again?

18 A. Certainly.

19 Q. Does the memo set forth the projected 1993
20 operational plan for Project Tomorrow?

21 A. That is the title of the memo, yes.

22 Q. Did Mr. Dwyer -- Dr. Dwyer set forth in this
23 memo what he believed to be the goal of Project
24 Tomorrow?

25 A. I don't know what he believed. He has a

1 program goal here.

2 Q. Did he accurately state the program goal of
3 Philip Morris in this memo?

4 A. In general terms.

5 Q. Was a portion of the program goal, as outlined
6 in that memo, to determine not only the technical,
7 but also the commercial feasibility of
8 manufacturing reduced ignition propensity
9 cigarettes?

10 A. Yes, sir.

11 Q. In this memo Dr. Dwyer talks about the concept
12 of burn promoters in fabrics. Do you note that as
13 well?

14 A. Would you direct me to it, please, sir.

15 Q. Bottom of page 1.

16 A. Yes, sir, that's what he says.

17 Q. What do you understand to be burn promoters?

18 A. Salts, such as potassium or sodium salts.

19 Q. The same microscopic components in fabric that
20 you and I earlier talked about in terms of being
21 hot spots -- or I think I described it as hot
22 spots?

23 A. You described them as hot spots. I'm not sure
24 that's perfectly true. But without these salts,
25 which occur naturally in cotton fabrics or in

1 cotton, fabrics won't ignite.

2 Q. One of the conclusions that Dr. Dwyer states

3 in the memo on page 1, last sentence, is that

4 our--and I assume he's referring to Philip

5 Morris--research has shown and it is confirmed by

6 literature that cotton fabrics without high levels

7 of burn promoters are not susceptible to ignition

8 by smoldering cigarettes, which I think is the same

9 thing you just told me. That without these burn

10 promoters, these salts, cotton fabrics won't

11 ignite; is that correct?

12 A. That's our -- that's our -- our data supports

13 that, yes, from my understanding; and we have data

14 that supports that.

15 Q. Are there burn promoters in other type of

16 fabrics other than cotton fabrics?

17 A. There are salts in other cellulosic fabrics.

18 There's salts in other fabrics. Whether they act

19 as burn promoters, so to speak, in non-cellulosic

20 fabrics are not, I don't think so.

21 We -- our data says that for a fabric to be

22 ignitable by a cigarette, it must be predominately

23 a cellulosic-based fabric, rayon or cotton.

24 Q. As opposed to a synthetic?

25 A. Yes, sir.

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1 Q. Is there any data that gives you a conclusion

2 or leads you to a conclusion as to what percent of

3 rayon or cotton must be present in the fabric for
4 it to be an ignitable fabric?

5 A. We have such data.

6 Q. What does it tell you?

7 A. It's got to be a high percentage. I don't
8 recall the number.

9 Q. Appreciating that you can't remember
10 everything sitting here in this chair today, is
11 there a place that you could go or that one could
12 go to find out what that data shows?

13 A. Yes, sir, there is.

14 Q. And without forcing you to an answer you don't
15 want to make, can you give me an idea? Is it like
16 90 percent, or is it closer to 60/40?

17 A. It greatly depends upon the fabric design.

18 But I don't believe we've seen anything ignite
19 below about--don't hold me to this number
20 exactly--the 60 percent level.

21 Q. Of either rayon or cotton?

22 A. Yes. Again, I'm not sure that's the exact
23 number.

24 Q. On page 2 of the memo, paragraph 3, Dr. Dwyer
25 continues his discussion of the topics contained in

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1 the memo. And he says, the fourth CORESTA
2 collaborative study has been planned.

3 To your knowledge, how many CORESTA
4 collaborative studies and issues of ignition
5 propensity have been conducted through today?

6 A. I don't recall.

7 Q. In paragraph 4 of the memo, Mr. Dwyer talks
8 about work ongoing with the paper technology group
9 in developing banded wrappers. Do you see that?

10 A. Yes, sir.

11 Q. Was the project that he is discussing in this
12 exhibit the same banded wrapper project that you
13 said is ongoing today?

14 A. An evolution of this.

15 Q. If you don't recall having heard of a Delta 3
16 project -- you and I talked extensively about Delta
17 1 and 2. Do you recall a Delta 3?

18 A. No, sir.

19 Q. Continuing on to page 2 and 3 of the memo
20 between the two, he -- Dr. Dwyer is discussing
21 certain tests in the last paragraph on page 2,
22 Bates No. 956 being the last three numbers. And he
23 discusses low density leaf blends and DIET and NET
24 technologies--those being in all caps, DIET in all
25 caps and NET in all caps. What are those

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1 technologies?

2 A. Both of them are expansion -- tobacco
3 expansion technologies.

4 Q. To put it in country boy terms that I could
5 understand, is that technologies to be able to make
6 the tobacco more dense within the rod of the
7 cigarette?

8 A. No, sir.

9 Q. What is it?

10 A. It's to make it less dense.

11 Q. Make it less dense in hopes that it will burn
12 more faster or slower?

13 A. As I said earlier, the density of the
14 cigarette does not have an effect on mass burn
15 rate--minimal, if any, effect on mass burn rate.

16 Q. Back to the time this was written, was that
17 the issue that was being bantered about, whether or
18 not the mass burn rate was dependent upon the
19 density?

20 A. There may have been some people thinking that
21 mass burn rate was dependent upon density. Neither
22 Dr. Dwyer nor I believed it was.

23 Q. What does DIET and NET stand for? Are they
24 acronyms for -- for project -- or for design types?

25 A. DIET stands -- wrongfully stands for Dry Ice

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1 Expanded Tobacco. N-E-T stands for New Expanded
2 Tobacco.

3 Q. Going on to the last page of Dr. Dwyer's memo
4 -- excuse me, not the last page, but it's the -- I
5 believe it to be the third page under Strategies.
6 I'd like for you to take a moment to look at the
7 strategy section on that page. It's Bates No. 957
8 being the last three digits. And after you've
9 looked at them, I want to ask you a question about
10 them.

11 A. Okay.

12 Q. Have any of the strategies been fleshed out to
13 their final conclusion?

14 A. What do you mean by "fleshed out"?

15 Q. Have they been pursued to their final
16 conclusion?

17 A. I don't think so.

18 Q. Have -- none of them have? They're all still
19 ongoing strategies?

20 A. No, they're not all still ongoing strategies.

21 Q. Okay. Which ones were taken to their
22 conclusion?

23 A. None of them were taken to their conclusion.

24 Q. In the course of working on Project Tomorrow,
25 has the project or any of its teams or team members

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1 prepared annual, monthly, quarterly, semiannual
2 reports?

3 A. Yes.

4 Q. Which of the above have been prepared?

5 A. Go through it again, please.

6 Q. Are annual reports prepared?

7 A. Sometimes, yes.

8 Q. Some years, huh? From 1987 up through the
9 present, for most years have annual reports --

10 A. I think -- I think for most years, yes.

11 Q. How about monthly reports?

12 A. Most of the time we -- no. We have not done

13 monthly reports.

14 Q. Sometimes there may be?

15 A. Yes.

16 Q. Are there quarterly or annual reports?

17 A. Most of the time there are annual reports.

18 Q. Just annual, not semiannual or quarterly?

19 A. Right, right.

20 Q. And on occasion are there special reports that
21 are emanated?

22 A. Yes.

23 Q. Did you ever have any discussion with
24 Dr. Merritt concerning his ideas on the feasibility
25 of self-extinguishing cigarettes?

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1 A. Not that I recall. It's Mr. Merritt.

2 Q. Okay. I'm still batting a thousand. Henry
3 Merritt, correct?

4 A. Yes, sir.

5 Q. Are you familiar with the Reduced Density Rod
6 Program?

7 A. Not with those terms, I don't think. I'm not
8 sure.

9 Q. Are you familiar with any program called Rod
10 Density Program, any specific program dealing
11 with --

12 A. That's such a generic term.

13 Q. I've just seen it appear in some documents.
14 That's why I asked.

15 A. I don't recall a program being such. I really

16 don't, but could have been.

17 Q. Have any of the studies that you undertook
18 through CORESTA or Tomorrow or the Joint Venture
19 dealt with the issue of or the study of sodium
20 potassium citrate as a treatment of paper in terms
21 of producing a cigarette that would be -- would
22 have a reduced ignition propensity?

23 A. No, sir.

24 Q. Generally speaking, does citrate cause the
25 paper to burn faster?

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1 A. Depends on the level of -- it's citrate.

2 Q. Does it make it burn faster, slower?

3 A. Again, it depends on the level of citrate. No
4 citrate is slower, and up to a certain level it's
5 faster, and then it levels off. And being a
6 scientist, again, all citrate is not a paper.

7 Q. Have you ever applied for any patent
8 personally?

9 A. Yes.

10 Q. Are any of those applications pending?

11 A. I think so.

12 Q. The one we talked about earlier that's
13 proprietary is pending?

14 A. I'm not sure I'm on that one.

15 Q. Okay. What I'd like to ask you about is what
16 patents, I guess, have you been granted?

17 A. I really don't recall.

18 Q. Have you been granted any patent dealing with
19 any processes or designs of reduced ignition
20 propensity cigarettes?

21 A. Not to my knowledge.

22 Q. Do you know Barbro Goodman?

23 A. Yes, sir, I do.

24 Q. How do you know Ms. Goodman?

25 A. She's an employee at Philip Morris.

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1 Q. Does she work on any projects that you're
2 involved in today?

3 A. Yes, sir, she does.

4 Q. What does she work on that you're involved in?

5 A. She's in the paper group. That's my
6 understanding she's in the paper group.

7 Q. Is her group conducting any research in
8 respect to Project Tomorrow?

9 A. The paper group is working with us on the
10 banded paper program.

11 Q. On the what?

12 A. Banded paper project program, part of Project
13 Tomorrow.

14 MR. GRISHAM: I'll pass the witness.

15 MR. MARKEY: I'll be brief.

16 MR. CRAMPTON: Do you need a -- I don't
17 know how long you're going to go. Do you need a
18 break? You mentioned being tired.

19 THE WITNESS: Yeah. If we're going to
20 go a real long time, I'd like a break.

21 MR. MARKEY: Five, ten minutes.

22 THE WITNESS: Okay. Let's do it and
23 I'll break for a long time.

24

25

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1 EXAMINATION

2 BY MR. MARKEY:

3 Q. Doctor, you mentioned you got your Ph.D. from
4 the University of Georgia. I believe?

5 A. Yes, sir.

6 Q. Where did you get your Master's?

7 A. I didn't get a Master's.

8 Q. Oh, really. You just went straight from
9 Bachelor's to Ph.D.?

10 A Yes, sir

11 Q. Are you a member of CORESTA, or is the company
12 a member of CORESTA?

13 A. I had a difficult time answering that
14 question. I think I'm a member of CORESTA

15 Q. If you -- in any event, your the designated
16
17

17 A. Yes, sir; yes, sir. From that respect I think

20 didn't get finished. A designated representative
21 of Philip Morris to what?

22 MR. MARKEY: To CORESTA.

23 A. Yes.

24 Q. (By Mr. Markey) I believe you testified--and
25 I don't mean to be redundant, but this will get to

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1 the point--you took over Project Tomorrow around
2 1987?

3 A. Yes, sir.

4 Q. What were you doing for Philip Morris
5 immediately before that, say, in the early '80s?

6 What was your job description?

7 A. I was a manager of another division before
8 1987.

9 Q. Could you explain?

10 A. Yes. The biomaterials science division.

11 Q. What were you doing in that division?

12 A. I was the manager of the division which was
13 involved in a number of areas of research,
14 including -- let's see, try to remember, we had
15 microscopy. I had a group that dealt with the
16 physical properties of tobacco, the strength of
17 tobacco, how to make it stronger.

18 Q. Sounds like that was all under research?

19 A. Yes, sir, under research.

20 Q. You've been in research ever since you joined
21 Philip Morris; is that correct?

22 A. Yes.

23 Q. More or less?

24 A. Yes.

25 Q. When you joined -- excuse me, when you began

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1 work on Project Tomorrow, you testified all about
2 that, you knew what the goal of that was. You also
3 testified you did not know what the goal of Project
4 Hamlet was, correct?

5 A. Correct.

6 Q. No one ever explained what the goal of Project
7 Hamlet was to you?

8 A. I don't recall reading a goal.

9 Q. Okay. Regarding Project Tomorrow, I want to
10 ask you about three or four questions and that's
11 all.

12 Did Project Tomorrow make any
13 recommendations of any kind regarding the
14 manufacture of cigarettes by Philip Morris which
15 were implemented as a result of Project Tomorrow?

16 A. Not that I can recall.

17 Q. Did you personally -- have you personally made
18 any recommendations regarding the manufacture of
19 cigarettes by Philip Morris as a result of the
20 research you've done on -- with Project Tomorrow?

21 A. Not that I can recall.

22 Q. Do you know of any changes that have been made
23 in the manufacture of cigarettes by Philip Morris
24 as a result of Project Tomorrow?

25 A. No, not that I know of. Not that I'm aware

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1 of.

2 Q. If you can answer this question, since 1980 --
3 well, I don't recall -- do you know when the
4 Marlboro 100's were first introduced to the market?

5 A. Not that I can recall.

6 Q. Well, since 1987 since you were involved in
7 Project Tomorrow, if we assume a Marlboro 100 was
8 being manufactured in 1987--if not, whatever year
9 it began manufacture--from that day forward until
10 today, has the manufacture of a Marlboro 100
11 changed in any way to your knowledge?

12 A. Not to my knowledge.

13 Q. I believe yesterday in either a document or
14 Ms. Goodman testified that the coal temperature of
15 a cigarette was 600 degrees. Assuming she said
16 that, would that be centigrade or Fahrenheit?

17 A. Be centigrade.

18 Q. 600 degrees centigrade?

19 A. Is that right? I think that's right.

20 MR. GRISHAM: Isn't that like a billion
21 degrees Fahrenheit?

22 MR. MARKEY: How hot's the sun?

23 Q. (By Mr. Markey) Does Project Tomorrow have or
24 have had -- has Project Tomorrow had any physicists
25 working with you?

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1 A. Yes.

2 Q. Who would that be? Who would they be?

3 A. Formally trained physicists, I suppose you're
4 asking, right? Formally trained physicists?

5 Q. Yes, sir.

6 A. Dr. Cliff Lilly is one. Mr. Harry
7 Lanzillotti's another. I can't recall everybody's
8 degree right off the top of my head, but yes.

9 Q. Just for the sake of perspective --

10 A. Most people have training. Dr. Bill Dwyer is
11 a physical chemist, as am I--physical analytical
12 chemist--so we speak to each other very closely.

13 Q. And you testified that over the years of
14 Project Tomorrow you've had between 14 and -- a low
15 of 14 or 15 and a high of 55 to 60?

16 A. That's my best guess.

17 Q. Can you give us an idea of how many -- over
18 the years, how many physicists, how many chemists,
19 how many technicians, how many worker bees there
20 have been? Is there any way to talk about that or
21 different -- I guess that --

22 MR. CRAMPTON: I object to the
23 suggestion worker bees unless, of course, the
24 answer is zero.

25 MR. MARKEY: Well, I mean --

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1 MR. CRAMPTON: I understand,
2 technicians.

3 MR. GRISHAM: That's another word for

4 them.

5 Q. (By Mr. Markey) Technicians?

6 A. I would have a riot on my hands when we got
7 back, but... Not off the top of my head. But I
8 can get some of that data, maybe not fully.

9 Q. Is there generally two or three scientists,
10 I'll call you, and two or three technicians; or is
11 there some kind of a mix?

12 A. In general, this program has involved more
13 scientists than it has lower level technicians
14 because it's a very complex program. And although
15 we use a number of technicians for testing, it's
16 been a pretty high-level program.

17 Q. So generally, most -- would you agree or
18 disagree that most of the time it's the scientists
19 sitting around discussing methodologies and things
20 like that, and then having the technicians build
21 protocols which are tested?

22 A. Scientists do more than sit around and
23 discuss.

24 Q. Well, I'm not meaning to downgrade what you
25 do, but theorize?

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1 A. Well, we develop -- well, we're in the lab
2 too, right. Sometimes you got to be there hands-on
3 in order to see what's going on.

4 Q. So, I mean -- and you were there, that's what
5 you do, right?

6 A. Yes, to some extent.

7 MR. MARKEY: Okay. I pass the
8 witness. Thank you, sir.

9 MR. GRISHAM: I have a couple of more
10 follow-ups on some documents.

11 (Whidby Exhibit No. 8 was
12 marked for identification)

15 MR. GRISHAM: Yeah, they're thick. I
16 don't know whether you're going to have to or not.

17 THE WITNESS: Maybe I better take a
18 break. Is that all right?

19 MR. GRISHAM: Okay. You bet.

20 (Brief recess.)

21 (Whidby Exhibit No. 9 was
22 marked for identification)

23

24

25

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1 FURTHER EXAMINATION

2 BY MR. GRISHAM:

3 Q. Dr. Whidby, I want to hand you what's been
4 marked as Exhibit 8, and ask you if you recall ever
5 having seen that document?

6 A. Specifically, I don't recall this document.

7 Q. You don't recall ever having seen it?

8 A. I don't recall having seen it, no, I don't.

9 Q. Do you recall ever having seen a five-year
10 plan before?

11 A. Yes, I've seen five-year plans before.

12 Q. Is there some reason that you would not have
13 necessarily seen this one because of its date or
14 your position at the time of its date or anything
15 of that nature?

16 A. I don't always have access or -- excuse me, I
17 don't always have my copy of the five-year plan
18 from Philip Morris U.S.A. This is not a -- to my
19 -- I don't think it's an R&D five-year plan.

20 Q. What department do you believe --

21 A. But it's possible I could have seen it.

22 Q. Okay. Do you agree that back in 1988 Philip
23 Morris viewed the fire-safe cigarette requirements
24 and disclosure of tobacco ingredients as a risk to
25 the industry?

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1 A. I don't know what Philip Morris believed in
2 1988.

3 Q. Did you personally see that as a risk to the
4 tobacco industry?

5 A. Could you restate that?

6 Q. Yes. Back in the 1988 era, did you personally
7 believe that federal and state product
8 requirements, such as fire-safe cigarettes and the
9 disclosure of cigarette ingredients, was a risk to
10 the tobacco industry?

11 A. I think any time there's a situation that --

12 that could require you to do something you may not
13 be capable of doing could be a risk.

14 Q. And Philip Morris in 1988 was not capable of
15 creating a commercially feasible fire-safe
16 cigarette?

17 A. I believe that to be the case, yes.

18 Q. Has anyone at Philip Morris ever told you back
19 in 1988 that they were going to work to ensure that
20 no compulsory requirement regarding ingredient
21 disclosure or fire-safe cigarettes became law?

22 A. I can't recall anybody ever telling me that.

23 Q. Do you believe that that was a policy at
24 Philip Morris in 1988?

25 A. I don't know.

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1 Q. What is the Center for Indoor Air Research?

2 MR. CRAMPTON: Objection; relevance.

3 If you're reading from something in that document,
4 tell him the page. You may be getting into
5 something that's not at all related to this case.

6 Q. (By Mr. Grisham) Okay. A-28?

7 A. Say again, please. A-28?

8 Q. Yes, sir.

9 A. Okay.

10 MR. CRAMPTON: Actually, I assume there
11 are a lot of things in that document that have
12 nothing to do with this case, and I would object to
13 you going into any of those matters on the basis of

14 them not being relevant.

15 MR. GRISHAM: Okay. Well, I understand
16 you have to make objections. I just don't know
17 what's necessarily relevant until I ask sometimes.

18 MR. CRAMPTON: Understood.

19 Q. (By Mr. Grisham) What is the Center for
20 Indoor Air Research?

21 A. I'm not aware -- I'm not -- I'm not
22 knowledgeable of this area to make many comments
23 about it. I know the center -- C.I.R., as it's
24 called, Center for Indoor Air Research exists.
25 What it is, what it does, who funds it, I don't

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1 know.

2 Q. I hand you what's been marked as Exhibit 9 and
3 ask you if you have seen this document?

4 A. I don't recall the document.

5 Q. If a document such as a strategic plan from
6 Philip Morris U.S.A. research and development was
7 created, such as this one purports from the cover
8 page to have been in February of 1989, and it were
9 directed to a restricted distribution list, would
10 you likely be on that list?

11 A. Yes, I would.

12 Q. And there's a name at the top of Exhibit 9.
13 It appears to be A.C. Lilly?

14 A. Yes.

15 Q. Do you know who A.C. Lilly is?
16 A. Yes, I do.

17 Q. Who is that?
18 A. Dr. Lilly.
19 Q. Dr. Lilly, I almost said Mr. Lilly. I would
20 have been batting a thousand. Who is Dr. Lilly?
21 A. I report directly to Dr. Lilly.
22 Q. And his title in 1989 would have been what?
23 A. I think it would have been Research Fellow.
24 In 1989 I don't think I reported to Dr. Lilly,
25 though.

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1 Q. All right. You reported to still Dr. --
2 A. I think it was Dr. Houghton at the time.
3 Q. Okay. Do you ever attend or have you ever
4 attended the quarterly planning sessions of R&D?
5 A. Yes, I have.
6 Q. Do you know what Project Art is or was, A-r-t?
7 A. Yes, I do.
8 Q. Does it have anything to do with ignition
9 propensity?
10 A. No, sir, it does not.
11 Q. Does it have anything to do with burn studies?
12 A. No, sir.
13 Q. Does it have anything to do with a fire-safe
14 cigarette development?
15 A. No, sir, not at all to my knowledge.
16 Q. Sir?
17 A. No, sir, not at all to my knowledge.
18 Q. On page 912 of the document before you --

19 that's the Bates page number.

20 A. Oh, I'm sorry. Okay.

21 Q. There's a comparison of resource allocations
22 from 1987 to 1988. Are you familiar with seeing
23 these sort of applications and allocations of
24 resources?

25 A. Yes.

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1 Q. Under the R&D programs, the fifth one listed
2 is Project Tomorrow?

3 A. Right.

4 Q. That was your project back in 1989, correct?

5 A. Best of my recollection, yes.

6 Q. And in 1987 it appears there was an allocation
7 of staff of 2.0. Can you tell me what that refers
8 to?

9 A. The top of the column says percent of
10 allocated staff. I guess it refers to that.

11 Q. Percent of all R&D?

12 A. That's what I would read it to be, yes.

13 Q. And that's in 1987. In 1988 that went down to
14 1.3, correct?

15 A. That's what it says, yes.

16 Q. In the second column, number of D.I.V.S. What
17 does D.I.V.S. refer to?

18 A. I don't know.

19 Q. Is Project Tomorrow -- does it involve
20 multiple divisions at Philip Morris U.S.A.?

21 A. Yes, it does.

22 Q. Would it involve six to ten divisions on
23 occasion?

24 A. Yes, it would.

25 Q. Would you turn to the next page, which is

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1 Bates No. 913, being the last three digits. The
2 first full paragraph, three sentences from the
3 bottom, I want to quote from this document and ask
4 you some questions about the quote.

5 Quote, less resources have been devoted to
6 Project Tomorrow in 1988 primarily because the
7 anticipated government action on ignition
8 propensity has not yet occurred, closed quote.

9 Have you ever heard that statement or
10 similar statements in the course of your employment
11 with Philip Morris U.S.A.?

12 A. I don't recall.

13 Q. Do you know whether or not it's been a policy
14 of Philip Morris U.S.A. to conduct ignition
15 propensity research concomitant with or associated
16 with the level of government activity on fire-safe
17 cigarettes?

18 A. I don't know. If the government were to
19 require something, then it's going to require a lot
20 of people to put together whatever the response is
21 to do it. That may not have anything, however, to
22 do with ignition, real world ignition.

23 Q. On page 30 of that document, Bates No. 939,

24 I'd like to direct you to paragraph B under fire
25 safety. I'm going to quote from the last sentence

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1 of the first full paragraph in subsection (B).

2 Quote, although Project Tomorrow is our only
3 current program which addresses this factor
4 directly, new products (sic) such as Delta, Sigma
5 and Beta would also meet a fire-safe criteria,
6 closed quote.

7 Have you ever heard a statement similar to
8 that?

9 A. Not -- no. Not exactly like that, no.

10 Q. Have you heard theories that Delta, Sigma, or
11 Beta would meet fire-safe criteria at some point?

12 A. Yes.

13 Q. Have you ever espoused that theory?

14 A. In so many words, I probably said that
15 products like Beta and Sigma would -- would not be
16 as fire prone as some other products.

17 Q. Why is that?

18 A. The -- in Beta the -- there is no burning
19 tobacco. In Sigma the burning coal is contained
20 within -- within itself, not exposed.

21 Q. All right. And Delta?

22 A. Similar.

23 Q. But no product emanating from any of those
24 projects, either Delta, Sigma, or Beta, has ever
25 been commercially marketed by Philip Morris

1 U.S.A.?

2 A. That's correct.

3 Q. The next paragraph of that document, if you'd
4 look at it, talks about an alternate scenario. And
5 on line 5 of that last full paragraph, the
6 consideration is given as follows: Quote, the
7 first is that a competitor will introduce a
8 successful fire-safe cigarette, closed quote.

9 Have you ever heard any discussions within
10 Philip Morris U.S.A. that theorized that there was
11 a competitor that might come up with a fire-safe
12 cigarette?

13 A. Not any great discussion about it. But you're
14 always concerned about what the competitor might be
15 able to put on the market that you might have to
16 comply with.

17 Q. Do you know of any competitor to Philip Morris
18 U.S.A. that has developed a design for a cigarette
19 that is self-extinguishing on substrate?

20 A. No, sir, I do not.

21 Q. That has a reduced ignition propensity while
22 on substrate that would meet the NIST standards?

23 A. No, sir, I do not. Maybe -- excuse me, maybe
24 you better ask that question again, please.

25 Q. Okay. Do you know any competitor of Philip

1 Morris U.S.A., up through today, that has developed
2 a reduced ignition propensity cigarette that does
3 not ignite substrate under the conditions imposed
4 in the NIST standards?

5 MR. CRAMPTON: The substrate being the
6 duck fabric used in the NIST test?

7 MR. GRISHAM: That's -- yes, their
8 criteria.

9 A. No.

10 MR. CRAMPTON: The reason I try to
11 press on that is you use substrate sometimes to
12 mean fabric and sometimes to mean foam.

13 MR. GRISHAM: I always use it to mean
14 foam. I began to learn in the deposition sometimes
15 Dr. Whidby was using that to refer to foam and the
16 covering, and that's why I tried to be very
17 specific.

18 MR. CRAMPTON: I don't think -- for
19 example, that question you just asked, when you
20 said "to ignite substrate," then I asked are you
21 talking about igniting the duck fabric, and you
22 said, yes, the criteria of NIST. But if you were
23 using substrate to mean foam, then that's not the
24 same as the criteria for the NIST test. And I'm
25 concerned that we're going to have some confusion

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1 somewhere along the line on this.

2 A. Yeah. I always, unless you direct me some

3 other way, I've always meant substrate to be the
4 entire mock-up. And we may have a confused
5 situation here.

6 MR. GRISHAM: What I'm hoping to
7 accomplish with the question is -- without going
8 and restating what the task group came up with, is
9 I was hoping to use some of the same language, and
10 that was the technologically feasible instrument
11 that would not ignite substrate. And that's why I
12 was using that generic terminology.

13 MR. CRAMPTON: Causing ignition on the
14 test or something, but when you say not ignite
15 substrate and then you say when you say substrate,
16 you mean foam, that takes it out of the realm of
17 all of these tests.

18 MR. GRISHAM: This last question I
19 didn't say foam.

20 MR. CRAMPTON: Okay. I'll shut up.

21 MR. GRISHAM: That's fine. I love a
22 good debate.

23 Q. (By Mr. Grisham) Let me restate the question
24 and make sure I have it right. Do you know of any
25 competitor of Philip Morris U.S.A. in the domestic

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1 market--that is, the United States of America--that
2 has developed a design for a prototype of a
3 cigarette that does not ignite substrate as it's
4 defined by the NIST in their standardized testing

5 protocol?

6 A. No.

7 Q. Has Philip Morris U.S.A. marketed in the
8 domestic United States domestic market the Marlboro
9 100's since, at least, 1990 up through the present,
10 continuously?

11 A. Say again, please.

12 Q. Has Philip Morris U.S.A. marketed within the
13 United States the Marlboro 100 cigarette from 19 --
14 at least 1990 up through the present, continuously?

15 A. To my knowledge, yes.

16 MR. GRISHAM: Pass the witness.

17 MR. CRAMPTON: No questions.

18 MR. MARKEY: No questions.

19

20

21 (Whereupon deposition concluded
22 4:20 p.m., August 28, 1996.)

23

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1 STATE OF VIRGINIA)

2 COUNTY OF)

3

4

5 I HEREBY CERTIFY that the answers to
6 the questions propounded to me at this deposition
7 are true, and that the foregoing typewritten pages

8 represent a full, true and accurate record of my
9 testimony given in this deposition.

10

11

12

JERRY WHIDBY

13

14

15

16 SUBSCRIBED AND SWORN TO before me by
17 the said witness, JERRY WHIDBY, on this the day
18 of , 1996.

19

20

21

22

NOTARY PUBLIC

23

24

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1 CAUSE NO. 26294

2 SHANNA SHIPMAN A/N/F OF * IN THE DISTRICT COURT OF
3 SHANNON MOORE, A MINOR, *
4 Plaintiffs, *
5 VS. * JOHNSON COUNTY, TEXAS
6 *
7 PHILIP MORRIS COMPANIES, *
8 INC., PHILIP MORRIS *
INCORPORATED, PHILIP *
MORRIS U.S.A., AND *
SHELLY MOORE, *
9 Defendants * 18TH JUDICIAL DISTRICT

10 ORAL DEPOSITION OF DR. JERRY WHIDBY
11 TAKEN ON AUGUST 28TH, 1996

12 I, TAMARA J. BRAUN, Certified Shorthand
13 Reporter in and for the State of Texas, hereby
14 certify to the following:

15 That the witness, JERRY WHIDBY, was duly
16 sworn by me;

17 That this transcript is a true record of the
18 testimony given by the witness;

19 That the amount of charges for the
20 preparation of this transcript and any copies of
21 exhibits is \$ (paid by Plaintiffs);

22 That the deposition transcript was submitted
23 on the 10th day of September, 1996, to the witness
24 (X) or to the attorney of record () for a party
25 who was a witness, for examination and signature
with instructions for the return of the transcript
by the 10th day of October, 1996; submitted to Mr.
William Crampton, Shook, Hardy & Bacon, 1200 Main
Street, Kansas City, Missouri 64105;

That changes, if any made by the witness, in
the transcript and otherwise are attached hereto to
incorporate herein;

That the witness did () or did not ()
return the transcript;

That the original deposition transcript, or
a copy thereof in the event the original was not
returned to the officer, together with copies of
all exhibits, was delivered or duly mailed to
Mr. Lynn Grisham, Attorney for Plaintiffs, Waltman
& Grisham, 3833 South Texas Avenue, Suite 150,

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1 Bryan, Texas 77802; that person being the attorney
2 or party who asked the first question appearing in
3 the transcript for safekeeping and use at trial;

That a copy of this certificate was served
on all parties and the clerk of the court.

4

5 GIVEN UNDER MY HAND AND SEAL OF OFFICE on
6 this the 10th day of September, 1996.

7

8

9

10 TAMARA J. BRAUN, CSR #3396
11 CSR Expiration: 12/31/97
12 Monica Weidmann & Associates
805 W. 10th Street, Suite 201
Austin, Texas 78701
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